

PART-TIME FARMER

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An introduction to agriculture
as a part-time occupation
for
Retired Professional men and others
by
C. N. BARCLAY



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INTRODUCTION

THE aim of this book is to introduce small scale agriculture to country house owners and occupiers, and to assist them to cultivate their gardens, and other land attached to their houses, on business lines.

The class for whom it is written is varied and wide—retired Service Officers and other Professional men living on pensions or invested money, and the still active professional or business man who has some spare time to devote to a side line : in fact anybody who has the facilities, and inclination, to run his garden, and the land adjoining his house, as a market garden or small-holding.

I feel that the book may be particularly suitable for middle aged men who have retired to a small country property on a pension, or are faced with the prospects of doing so. These are the very men who are seeking useful employment in these difficult times. Small scale agriculture offers them a means of assisting the National effort to produce more food and supplementing their own incomes.

To those who like the country the life is very pleasant and the subject an interesting one.

It may assist the reader to follow the train of thought which I have tried to express, if he knows something of my own circumstances. From 1915 to 1945 I was a Regular Army Officer. For some years before retiring farming and country pursuits had been my hobby. I had read many books on the subject, and visited farms and agricultural establishments at home, in America and in other countries. I had a fairly extensive theoretical knowledge, but little practical experience. I was able to practice my theories for the first time in 1945 and since then I have devoted much of my time to the practical side—in a small way. I have learnt that theory alone cannot produce good results ; but if one

starts with a sound theoretical knowledge the practical side comes easier and quicker, and many mistakes are avoided.

The book is divided into two parts. Part I deals with the subject in general terms—how to make a start, organisation, labour, the financial and legal aspects and other non-technical matters. Part II is an introduction to the technical side, and I would emphasise that it is *only* an introduction. I have merely tried to show the way to the practice of the various branches of agriculture suitable for a small holding—fruit and vegetable growing, bees, poultry, etc.

I do not profess to be a technical expert on all these subjects ; but I have given them much thought and I have a wide circle of friends engaged in agriculture, with whom I am in frequent correspondence and personal contact. The book is not based entirely on my own experience, but also on that of others in various parts of the country.

Even if it were desirable it would not be possible to include technical details on all these matters in a volume of this size. I have, however, made every effort to show how, and where, knowledge can be acquired, by suggesting appropriate literature and other means of enlightenment. I have tried to make this one of the main features of the book.

References to trading firms, nurserymen and books appear frequently, and I wish to make clear that neither the Publishers nor I have any financial interests in these firms or publications, nor has any fee or commission been accepted for mentioning them. The recommendations are made entirely on their merits.

I have not written for the young man who contemplates farming as a career. This book will not show you how to make a fortune from the soil ; but it may enable you to provide a large quantity of good food for your family, make a small cash profit and assist the country in a time of difficulty.

I need hardly say that unless you have a definite inclination for this type of life it should not be attempted.

I am aware that in recent years there has been a spate of literature on farming, gardening, the keeping of live stock and country pursuits in general. Some of these books consist mostly of personal reminiscences, which although interesting are of little practical value : some deal with large scale farming : others are highly technical. I am not aware, however, of any single volume which deals with the organisation and financial aspect of a small holding on the lines I have adopted. I hope, therefore, that this book will fill a gap in agricultural literature. I would recommend reading it right through, rather than selecting a Chapter here and there.

Some of my statements, and some of the advice I have given, are contrary to accepted practice and at variance with the opinions of experts of many years standing. In places I have criticised what I regard as out-of-date methods, still extensively employed in agriculture. All this may seem an impertinence from one whose experience in these matters is limited to a few years, commencing in middle age. I am very conscious of my inexperience and shortcomings, and in defence of any of my remarks, which might cause offence, I can only point out that there are very few activities to which a fresh and unbiased mind cannot bring some benefit. To turn briefly to higher levels : it is not many decades ago that one of the main qualifications for a Viceroy of India was that he should be totally unacquainted with India and Indians—the theory being that he then took up his duties without any prejudices or preconceived notions. The system was not entirely unsuccessful.

I feel that the words of Sir Thomas Browne, written in 1672, are not altogether inappropriate to agriculture in the middle of the 20th Century:

“ The mortallest enemy unto Knowledge, and that which hath done the greatest execution on Truth hath been a peremptory adhesion unto Authority, and more especially, the establishment of our belief upon the dictates of Antiquity.”

Many of the matters on which I have written—

wages, prices, taxation, Government orders and controls and others of a legal nature—are apt to fluctuate or are temporary in their application and liable to cancellation or amendment. Details of this kind have been revised up to the last possible date before publication ; but in these days of instability and change there can be no guarantee that they will be up-to-date in every detail by the time the book comes into the hands of the reader. Changes in wages and prices should not be difficult to calculate, however, and the part of the book devoted to taxation, and the legal side of agriculture, has been written mostly in general terms, rather than with a view to detail. It is hoped, therefore, that for practical purposes the Chapters dealing with these matters will remain useful for some time to come.

I am indebted to the Country Gentlemen's Association Ltd., of Axtell House, Warwick Street, London, W.I. for the assistance given by their Taxation Specialist in compiling and checking that portion of the book dealing with Taxation and allied matters.

I also wish to express my thanks to the Publishers—Messrs. Sifton Praed & Co., Ltd. of Map House, St. James's Street, London, S.W.I.—for their help and unfailing courtesy.

C. N. BARCLAY.

January, 1948.

PART I

**The fundamental principles of small scale agriculture
—including preliminary considerations, labour and
labour saving devices, accounting, taxation, legal matters,
organisation and marketing.**

CHAPTER I

PRELIMINARY CONSIDERATIONS

I.

THE IDEA OF THE THING

AS explained in the Introduction the purpose of this book is to introduce small scale agriculture to retired professional men and others, who are seeking useful employment in these difficult times.

Many of these people will be in the region of middle age, and most of them will be unaccustomed to heavy manual labour. They cannot be expected to suddenly take on a farm worker's duties, and it is important that this be realised at the outset. In the next Chapter it will be explained how work on a small holding can be organised on labour saving lines.

It is most important not to "bite off more than you can chew." A holding on modest lines, well within the capacity of the owner, is a much better proposition than a larger one which extends the owner's capacity to the limit, will be a constant source of anxiety and in which some unexpected misfortune may result in a breakdown.

The aim must be to develop the property on sound lines, so that it is easily run, as productive as possible and profitable. The bugbear of so many farmers and small-holders—overwork to the point of exhaustion and inefficiency—must be avoided.

I would like to make clear from the outset that this book does not pretend to indicate how to make a fortune, or even a living, from the land. It is for those who wish to augment other sources of income, either on a whole or part time basis, and who will be content with small profits.

II.

FUNDAMENTAL FACTS

There are a few fundamental facts which our would-be agriculturalist should consider from the outset, if he is to avoid starting on wrong lines. Summarised, these are :—

- (a) That livestock, with the one exception of bees, require regular routine attention every day of the year. Poultry must be fed : cows and goats must be milked, as well as fed. Therefore, unless you can always rely on some assistance, livestock should not be attempted, otherwise you will be tied to your property, every day of the year and practically all day.
- (b) That fruit farming (including soft fruit) is the least irksome form of agriculture. Certain things—pruning, spraying and picking—have to be done ; but there is considerable latitude as to *when* they can be done, and for the major part of the year fruit trees and bushes require little attention. Moreover, fruit growing does not demand heavy manual labour, practically all the work being well within the capacity of a woman. It requires knowledge and skill, however, and from a financial view point the planting of an orchard, or plantation of soft fruit, is a somewhat long term project. There will be little profit for the first few years, but once the trees or bushes reach maturity the capital appreciation will be considerable. (The foregoing remarks apply equally to bees, which as fertilisers of blossom are complementary to fruit trees, and should always be kept where fruit is produced).
- (c) That as regards routine work vegetable gardening comes somewhere between livestock and fruit trees. Certain things have to be done on approximately given dates, but a day or two one way or the other makes little difference. There are no duties approximating to the milking of a cow—which must be

done at certain times every day. Perhaps the best way of putting it is to say that a serious vegetable gardener could take three or four days holiday in the Spring, but he could not take a month's holiday then—although he might do so in late Summer, Autumn or Winter.

- (d) That labour is the crux of the whole matter. If profits are a consideration—as they will be in most cases—every possible device must be employed to reduce labour charges. (This matter is dealt with in detail in the next Chapter).
- (e) That a high proportion of the true profit (as opposed to cash profit) of the holding will be in the form of produce brought into the household for consumption by the family. The exact proportion will depend on the size of the family and the nature of the holding ; but if you keep a careful record of the value of every item you will be surprised at the amount. In the case of a household of five or six persons—where all the vegetables, fruit, honey, poultry and eggs, jam and firewood is home produced—it can amount to as much as £150 per annum. There are many good reasons for giving this form of produce priority over that for sale. It will usually be fresher, more varied and of better quality than bought commodities. It will be available close at hand, and will save visits to shops, transporting it home and possibly “queuing.” If the holding has been organised with a view to incurring the minimum liability to Income Tax produce for household consumption may, quite legally, escape tax, and if this is so its value, with Income Tax at the present (1947) rate of 9/- in the £, is nearly doubled. Its value will be the equivalent of Income which is Tax free. This is not always the case, however, as in certain circumstances the value of produce brought into the house may have to be shown on the receipts side of the accounts. This matter requires careful consideration and is dealt with more fully in Chapter

III Section IV. Quite apart from Income Tax relief, however, the advantage gained in these days by making your holding support your family to the greatest possible extent, is hardly open to argument.

As will be seen in the next Section of this Chapter these facts have an important bearing on the scale and scope of the enterprise.

III.

THE SCALE AND SCOPE OF OPERATIONS

Many who read this book will already possess a home suitable for the activities which I have in mind : others may have to acquire one. It is not proposed to deal in detail with the acquisition of a property : it will be sufficient to mention a few matters of general application.

- (a) Do not strive for perfection. You will never get exactly what you want. It is sure to be a little too big or a little too small : slightly too urban or slightly too isolated : the house will have too many or too few rooms. Be content with something reasonably suitable or you will spend the rest of your life searching for the ideal.
- (b) It is, of course, possible to run a small holding on land not adjacent to your house ; but this is very inconvenient. A lot of time is wasted travelling to and fro, and serious losses may occur through pilfering. It is much better to have everything under your eye.
- (c) Do not be put off because the land is in a neglected condition, although you will naturally expect the house to be habitable. In these days of labour shortage there are very few small properties which have been maintained in first class condition since 1939. Hedges may be overgrown, ditches require cleaning out, established orchards require pruning and spraying, gates need repairing or renewing and the whole place have to be tidied up. My own

property was in just such a state; but within fifteen months I had got it into ship shape condition and by employing only casual labour. There are even advantages in such a state of affairs, provided the place is basically what you want and the process of neglect has not gone too far. In my own case the "loppings" from two old and neglected orchards will provide logs for the household for four years: the timber from two old sheds was used for innumerable useful purposes and I unearthed enough wire netting to construct a tolerable sized fruit cage. The logs, timber, wire netting, and other materials salvaged, more than paid for the labour on hedges, ditches etc. Moreover, if you *do* happen to run across a property in perfect order you can be quite certain that the price asked for it will be a high one.

We now come to the most important question of all, and one which you will have to decide at once, as soon as you have made up your mind to become a small holder—"What is to be the scale and scope of the venture?" or in other words, "How big is it to be, and what am I going to produce?"

Probably fifty per cent. of this question will be answered automatically by the nature of the property, the size of your family, the capital available and other fixed factors. Obviously if you have an acre or two of established fruit trees in good condition you will not cut them down, but improve and develop your orchard. Similarly you will not embark on developments requiring a capital of £2,000, if it is inconvenient to produce that amount. If you do not intend to grow vegetables for sale the size of your vegetable garden will depend on the number of persons in your household.

In general terms it may be said that small holdings can be divided into three classes—small, medium and large—and one or another of these will fit into the scheme of things in most cases. We will, therefore, investigate the conditions governing each in detail. (*See also Plate I*).

(a) *Small*

By this I mean a "large garden" which once established can be run by the owner with the help of a little casual labour—perhaps a man twenty days a year to do the really rough work.

The following is a suitable lay out :—

Vegetable

Garden	About 500 sq. yds.	} Sufficient to supply an average house- hold and give a small surplus.
Soft Fruit	About 200 " "	
Bees	3 hives	
Chickens	10 laying hens	

Orchard (apples, pears and plums) Up to 1 acre.

By this plan the more troublesome activities, such as vegetable gardening, beekeeping and chickens have been reduced to the minimum consistent with providing ample supplies for the house; while the least irksome—orchard fruit production—is on a bigger scale for sale.

SUMMARY :—

Labour :—

Owner—an average of 3-4 hours per day.

Casual—one man about 20 days per year.

Financial :—

Capital (not including the purchase of the land and assuming that no fruit trees already exist).

Vegetable garden	say	£25
Soft Fruit	"	£30
Bees	"	£25
Chickens	"	£25
Orchard	"	£200

(See Chapter VII
Sec. III) £305

Profit (when orchard and soft fruit bushes are established).

Vegetables, fruit, eggs, honey,

etc. taken into own house-
hold about £90 per annum
Sale of fruit from Orchard „ 150 „ „

£240

Deduct :—

Labour £16

Misc. £24

£40

Net Profit say £200

If the owner and his family are liable to be away and there is no reliable assistance to be obtained close at hand chickens should not be included, owing to the necessity for regular feeding.

(b) *Medium*

In a “Medium” holding I visualise the employment of regular part-time labour—say one man two or three days per week, augmented by additional casual labour as required.

The following is a possible lay out under this heading :

Vegetable Garden	..	about 500 sq. yds.
Soft fruit	..	„ 500 „ „
Bees	..	10 hives
Chickens	..	15 layers
		(Rear 50 for eating)

Orchard (apples, pears and plums)	..	3 acres
--------------------------------------	----	---------

This lay out will give a surplus over household requirements in some departments ; and will keep the owner (working an average of three or four hours per day), and one man two or three days a week, fully occupied. Some casual labour will have to be employed for picking Orchard fruit. The chickens for eating are intended for consumption by the household and their feeding, under present conditions, would be a problem.

SUMMARY :—

Labour :—

Owner—An average of 3 or 4 hours per day.

Regular—One man, 3 days per week.

Casual—About 15 man days per year.

*Financial :—**Capital :—*

Vegetable Garden	say	£25
Soft fruit	”	65
Bees	”	75
Chickens	”	45
Orchard	”	600
		£810

Profit (when orchard and soft fruit bushes are established).

Vegetables, fruit, eggs,
chickens, etc. taken

into own household about £110 per annum.

Sale of surplus :—

Soft fruit	..	£10	
Honey	..	30	
Orchard	..	450	
			490
			£600

Deduct :—

Labour, say	160	
Misc.	50	
		210

Net Profit, say £390

(c) *Large*

A “Large” holding is one of from five to ten acres. Anything much larger comes within the sphere of farming and is outside the scope of this book.

Before embarking on a large holding, serious

thought should be given to the matter. The capital outlay will be considerable, reliable regular labour will be essential, as well as good marketing facilities. The larger the holding the more the owner will come within the sphere of controls and restrictions. You will become a professional agriculturalist with all its interests, but also with its anxieties and difficulties.

I say this, not to discourage the reader, but as a warning. Eight or ten acres of fruit and vegetables are not to be undertaken lightly. They will be a serious business. Failure will be more than a disappointment: it may mean an embarrassing financial loss.

Generally speaking I would not recommend any substantial increase in any department except fruit growing, and that mainly apples, pears or plums. Confine your vegetables, chickens, and soft fruit to the requirements of your own household or to what you can sell locally to friends and acquaintances. If you feel that you have aptitude for beekeeping, this department might be increased to produce more honey for sale, and the additional bees will improve the pollination of the fruit trees.

The difference between a "large" holding and a "small" or "medium" one should be mainly in the direction of an increase in the production of orchard fruit (and possibly bees). Marketing will be much easier this way.

Above all—do not be tempted to grow farm crops such as cereals, potatoes, roots and green vegetables on any considerable scale. These crops cannot normally be grown economically except in a big way, and they involve the use of ploughs and other expensive implements.

The following is a possible layout under this heading :—

Vegetable Garden	about 500 sq. yds.
Soft fruit	 500 " "
Bees	.. 10 hives
Chickens	.. 15 layers (Rear 50 for eating)

Orchard (apples, pears and plums) 6 acres

These figures are the same as for a Medium holding, except the orchard.

SUMMARY :—

Labour :—

Owner—3 or 4 hours per day.

Regular—I man.

Casual—About 50 man days per year.

Financial :—

Capital :—

Vegetable Garden	say	£25
Soft fruit	„	65
Bees	„	75
Chickens	„	45
Orchard (6 acres)	„	1200
		£1410

Profits (when orchards and soft fruit bushes are established) :—

Vegetables, fruit, eggs,
chickens, honey, etc
taken into own house-
hold value about

£110 per annum

Sale of surplus :—

Soft fruit	..	£10
Honey	..	30
Orchard	..	900
		£940
		£1050

Deduct :—

Labour, say	..	£280	
Misc.	..	100	
			£380
		Net Profit, say	£670

I hope that these three "lay outs" will give the reader some idea of the financial, labour and other aspects of the problem. I am aware that many experts of great experience will disagree with my figures. In agriculture there is no such thing as a normal year. The only means of obtaining guidance on production, profits, labour requirements, etc., is to take an average of several years. This I have been at some pains to do, and from my own experience, and that of others, I feel I have arrived at something approaching correct figures. On the whole I think my figures for profits are conservative. Orchard fruit trees on a dwarf stock (such as Mallings Nos. I, II or IX) plant at about 200 to the acre, and I have shown an average profit of only 15/- per tree per annum. If the methods of cultivation are sound, and really choice fruit of good varieties produced, 15/- is a very low average. It only amounts to 30 lbs. at 6d. per lb., and in many seasons the quantity and price will be very much higher than that. Even before the trees come into full bearing it should be possible to reach these figures.

It must also be realised that the three examples given are merely a guide. I do not expect that anybody ever has, or ever will, develop a holding to the exact pattern of any one of them. The question of Income Tax will require very careful consideration when deciding the size and scope of the undertaking. A very small holding may not involve the owner in any additional Tax, as the bulk of the produce will go into his own house, and the small quantity sold will be regarded as the surplus from his garden. This aspect of the matter is dealt with more fully in Chapter III.

HOLDINGS OF VARIOUS SIZES, AND SCOPE, IN DIAGRAMMATIC FORM.

Note :- The following is a summary of the suggestions made in the text.

	<u>SMALL</u>	<u>MEDIUM</u>	<u>LARGE</u>
<u>Vegetable Garden</u>	 500 sq. yds.	 500 sq. yds.	 500 sq. yds.
<u>Soft Fruit</u>	 200 sq. yds.	 500 sq. yds.	 500 sq. yds.
<u>Bees</u>	 3 hives	 10 hives	 10 hives
<u>Chickens (or Ducks)</u>	 10 layers	 15 layers 50 for table	 15 layers 50 for table
<u>Orchard</u>	 1 acre	 3 acres	 6 acres
<u>Labour</u> (in addition to your own)			
Regular.....	Nil	1 man 3 days per week	1 man
Casual.....	20 man days per year	15 man days per year	50 man days per year
<u>Capital</u> (approximate).....	£ 305	£ 810	£ 1410
<u>Profit</u> , per annum (approx.) (includes value of produce brought into own household)	£ 200	£ 390	£ 670

IV.

ACQUIRING KNOWLEDGE

In almost every land the agricultural community work harder, and usually for less reward, than most of those engaged in other occupations. There is something about the land which makes for contentment, and long hours in all weathers are conditions which are accepted by the farmer, small holder and their assistants without complaint.

Our own country is no exception. Since 1914 the farmer and his men have made a fine effort, and in recent years when production per man has fallen in almost every other industry, the per capita production in agriculture has increased.

While we can applaud the hard working qualities and goodwill of our farming community, we cannot always be so laudatory about their methods. Our best farmers are probably the best in the World, but there is a long tail of second and third bests—men who for some reason, often outside their control, waste much of their energy by working to out-of-date methods. There can be little doubt that if every farmer was as good as the best, and we cultivated every available acre, we would go a long way—although not perhaps the whole way—to solving our food problem.

I will not attempt to criticise the methods of the large scale farmer producing primary food crops, meat and milk ; but will confine my remarks to the small holder and market gardener.

One frequently meets men whose acreage of fruit—apples, pears or plums—places them in the class of professional fruit growers, and after a short conversation one discovers that they have little or no knowledge of pollination ; yet pollination is a subject which is vital to successful fruit production.

Similarly, there are hundreds of soft fruit growers who know nothing of the diagnosis, or treatment, of the various virus diseases which attack practically all soft fruits.

It is a remarkable tribute to the honey bee that it often produces a surplus of honey in spite of the ignorance of the average beekeeper. Not one beekeeper in twenty practices any method of swarm control, and not one in fifty can diagnose, or treat, the few common bee diseases which wipe out hundreds of colonies every year.

Gardens and small holdings producing vegetables are often cultivated without any cropping or other form of plan, and without any attempt to control pests or disease.

There are many whose only modern idea is the wholesale, and often quite disastrous, use of artificial fertilisers. These chemicals undoubtedly have their use in stimulating growth ; but if anything is certain in agriculture it is the fact that plant life cannot thrive without organic manure—i.e. animal manure or compost. Given this the judicious addition of artificials is of great benefit.

These are only a few of the things one sees and hears about almost daily, and one wonders why it is so. Why are so many of these hard working and intelligent men so ignorant ? Is it that they prefer out-of-date methods ? I have given this matter much thought and discussed it with many people of all sorts engaged in agriculture. As a result I have come to the conclusion that eighty per cent. of those who practice out-of-date methods do so because they do not know where, or how, to obtain up-to-date knowledge. Many of them lead very isolated lives : they have little time for reading or intercourse with others. Their whole time and energy is devoted to the day-to-day task : there is nothing left over for study or thought.

Yet a fund of information exists and is readily available, on every branch of agriculture. Apart from advice concerning local conditions, which every sensible man should obtain when starting in a new locality, there are three main sources of knowledge, namely :—

- (a) From the County Experts who work under the County War Agricultural Executive Committees. These include experts in horticulture, beekeeping,

poultry keeping, etc. Their advice is free and they are available to visit farms and holdings. In my experience they are invariably most helpful and their assistance is invaluable.

- (b) Experimental Stations such as those at East Malling and Rotherhampstead, where research work is carried out. Visits to these places can be arranged, samples for the diagnosis of disease can be sent to them or advice can be sought by correspondence. (See Appendix F).
- (c) Literature. Books exist on every possible subject connected with production from the soil. The cheapest, and often the best, are Government publications costing only a few pence. A complete and up-to-date list of these is obtainable from His Majesty's Stationery Office, York House, Kingsway, London, W.C.2., and 120 George Street, Edinburgh. In addition there is a wealth of literature by private individuals. As might be expected these are more expensive; but many have become standard works and are well worth buying. (See Appendix B, which contains a list of some of the most reliable books).

I would strongly recommend membership of the Country Gentlemen's Association Ltd., Letchworth, Herts.* This Association sells every type of agricultural requirement at prices considerably below the normal retail, has an advisory staff of experts on most subjects and publishes a monthly magazine. It is well worth the annual subscription of £1 1s. 0d.

From the foregoing, and a study of Appendices B, C and F, little difficulty should be experienced in acquiring information on any subject. The information is readily obtainable and if you know how to get it—as you should after reading this book—there is no excuse for remaining ignorant.

It will, of course, be a great advantage if you have made some study of the theory of the various branches of

* Abbreviated C.G.A.

agriculture you intend to go in for, prior to practicing them.

I made a study of the subject for some years before I retired. I read a lot of literature, made a practice of meeting practical men and whenever possible visited farms, market gardens and bee farms. I found this very useful, but as an adjunct to, and not a substitute for, practical experience.

V.

PLANNING

Although in common use in America the term "planning" did not become fashionable in this country until about 1941. Now planning is an established feature of all Government and Industrial undertakings. It is merely another term for "organisation" or "thinking things out," but the new term certainly gives emphasis to the process which every sane person goes through, to some extent, before embarking on even the simplest venture.

The big scale farmer finds planning a difficult matter. He is at the mercy of our climate : he is subject to Government controls and decisions which are sometimes made at short notice, and he often finds it difficult to spare the time to make a plan and supervise it when made.

These difficulties are not so great for the small scale man for whom this book is written. Doubtless there will be some who will laugh at the idea of any serious planning being considered necessary for a holding of three or four acres. These people will be wrong. I can assure them that a definite plan is necessary, even for the cultivation of half an acre of land.

I would say that there are three different kinds of planning applicable to the small holder.

(a) *Long Term Planning*

At the very start you will have an "aim" for your holding. You will have decided what it is to be like when fully developed. You will probably

draw a rough map showing which portions of your land are to be devoted to different things—orchard, soft fruit plantations, vegetables, poultry, etc.

You will not be able to do it all at once. The first year you may start the vegetable garden and plant the soft fruit, the second year plant an orchard, the third year another orchard.

The programme for this work is your initial long term plan.

If you decide to alter, or extend, your activities then later you may make another long term plan.

(b) *Seasonal Planning*

All farming is a year-to-year operation and every small holder must make a plan for each year. This is best done in the Autumn, and will cover the activities of the holding until the next Autumn. It should include such matters as :—

Cropping plan for the vegetable garden.

Pruning, spraying, manuring, etc. of fruit trees.

Poultry rearing programme.

Bee keeping programme.

Repair and renewal of equipment during the winter.

Ordering seeds, fertilisers, etc.

Estimate of casual labour requirements and timely arrangements to procure it, etc.

(c) *Short Term Planning*

The may range between arrangements for the following few weeks to arrangements for the following day. It is really the detailed arrangements for (a) and (b).

One may have been present at some time when a party of casual labourers arrive for a job. Half an hour is spent in deciding what work each is to do and another half hour collecting and distributing the tools. If their work had been planned in detail the previous evening, and the tools laid out ready before they arrived, much wasted time would have been saved.

This is a simple example of short term planning. It means that you always know in advance what you are going to do, and how you are going to do it.

It is often necessary to have alternative plans to fit in with weather conditions.

It is most important that agricultural plans should be fluid. Exact dates for matters such as seed sowing, the various manipulations connected with bee-keeping, pruning, spraying and picking fruit trees, digging and hay-making, cannot be decided three months in advance. In your seasonal planning programme the best you can say is "second week in April," "early June," "End of August" or some similar expression which gives the period whilst leaving the exact date for decision later—i.e. as part of the short term planning.

CHAPTER II

LABOUR AND LABOUR SAVING METHODS

THERE are three kinds of labour, which will be employed on your holding :—

- (a) Your own labour.
- (b) Regular labour.
- (c) Casual labour.

As in these days labour is a very expensive and scarce commodity it is important that it should be employed to the best advantage.

Your first task will be to work out how much labour you will require. This is not an easy matter to decide without a good deal of previous experience.

It is probable that in the initial stages, when you are developing your property, more labour will be required than later—when it is a going concern. It is best to employ casual labour for this purpose rather than take on one or more “regulars” and then have to discharge them later. In my own case I employed Italian Prisoners and Land Girls to get the place going. This I found to be a good method, as I was able to employ four or five for a short period and get the work done quickly, whereas if I had employed a regular man, who I intended to retain permanently, it would have taken much longer. In the development stage a “gang” for a short time is far better than one man for several weeks or months.

It is, of course, not always easy to get casual labour, especially when harvesting, haymaking and fruit picking are in progress. The best thing is to discuss the matter with an Official at the local Labour Exchange or enlist the help of the War Agricultural Executive Committee.

Having done with the initial work of development the next task in this connection will be to decide what

labour is required to run the place. To do this the following calculations are required.

- (a) An estimate of the average number of man hours per day required on the holding. Assume that you decide that this is ten hours per day.
- (b) How much of this are you prepared to do yourself? Suppose you decide on four hours per day.
- (c) At what particular periods of the year will you require more than the average amount of labour? Assume that you decide as follows :—

Early spring—for getting vegetable garden ready for sowing, say six man days.

October—for picking, grading and packing apples say twelve man days.

From these calculations it will be clear that you cannot do all the work yourself, as there is on an average six hours more work per day to be done than you are prepared to do. This six hours can hardly be done by casual labour and there appears to be no alternative to employing one regular man. You will expect him to work about eight hours per day, except on Sundays and a half day on Saturdays. If therefore, he is a good man he will not have quite a full day's work and you will have to find him some other job—such as cleaning the car, cleaning boots, etc. For the rush periods in early Spring and October you will require some casual labour.

Summarised your labour problem will work out like this :—

Own labour—(4 hours per day)

1 Regular man	say	£234 per annum.
Casual Labour	„	15

Total £249 per annum.

This is the process of thought and calculation which you should go through.

Naturally in making your estimate of labour requirements you will wish to consider every possible labour saving device. You will want to use as little of this expensive commodity as possible, and you will want to

get the best results from what you do use. When you work yourself you will want to do it as easily and quickly as possible. There is no merit in doing things in the most difficult way—although some people seem to think so.

This question of labour saving methods and devices is very important, and is worth a lot of thought. There are three methods of saving labour :—

- (a) The efficiency of whatever labour is employed.
- (b) Good organisation.
- (c) Modern tools and machinery.

The first of these requires little comment. Obviously an efficient, hardworking and intelligent workman is a labour saver : an inefficient and lazy one is a labour waster.

On a small holding, where the scope for expensive modern devices is limited, the greatest single factor in labour saving is the method of organisation. A little thought and a few simple expedients in this direction will save many hours a week. It is not easy to give an exhaustive list of items in this category, and I will content myself with a few examples.

Original layout

Try and plan your holding so that the day-to-day tasks require a minimum of effort. Do not put the poultry, which require feeding twice every day, on the land most distant from the house. Have them reasonably near, and if possible put the bees and plant the orchards—which only require periodical attention—on the more distant portions.

Gates which are used frequently should be easy to open and shut.

As far as possible make a good job of all permanent fixtures—such as fences, gates, sheds and the like. If they are constructed anyhow they will require constant repair.

Unless you intend having a piped supply try and site the kitchen garden near a natural water supply—a pond or stream. It will make watering much easier.

Have your tool shed in a central position, or better still have more than one.

The provision of concrete paths is well worth consideration. The initial labour and cost is considerable, and once laid they are very difficult to remove ; but they are absolutely indestructable and save the ceaseless process of weeding, inseparable to almost every other kind of path. I laid 150 yards of concrete paths in my kitchen garden. It was done with unskilled labour and the cost of a path two and a half feet wide and two inches thick worked out at about 3/- per yard run—although if you put it out to contract the cost would be much more and the result no more satisfactory. The ingredients are one part cement, two parts sand, three parts gravel—plus water. Full particulars of how to make concrete paths, farm roads, steps, posts, water troughs and many other useful things, are contained in a series of pamphlets issued by the Cement and Concrete Association, 52 Grosvenor Gardens, London S.W.1. They are sent free on application, and are almost fool proof in their simplicity. The mixing and laying of concrete is, however, heavy work and requires a fit man used to rough labour.

Duplication of tools

After a little experience you will find that certain tools and implements are frequently required in certain places. A simple example is a pair of scissors. The opportunity for using them may crop up in the greenhouse, in your workshop or among the bee hives. Now if these places are widely separated, and you only have one pair of scissors, you will waste a lot of time walking about getting them and then taking them back. If you have three pairs of scissors you will avoid all this. In some books on gardening emphasis is placed on the importance of always cleaning tools after use and putting them away. This would be sound advice if the life of the tools was the only consideration, but it can be carried too far. Personally, except during the winter months, I often keep the tools which are in most common use in the

open where they are most frequently required. It may reduce their life from ten to eight years or so, but it saves time and I think it is worth it.

The duplication of the less expensive tools is rather a fetish with me. I have saws, trowels, screw drivers, hoes, spades and what not dotted about all over the place. Perhaps I overdo it, but I have saved myself many miles of walking and the matter is an endless source of amusement to my friends. On occasions the system produces extra free labour, as the sight of a hoe near at hand sometimes induces a visitor, or even a member of my family, to do a little hoeing.

The last item on the labour saving list "Modern tools and machinery" may on first consideration appear to be the most important. This is probably so in the case of a man farming several hundred acres but on a small holding the scope is limited. Tractors, large power fruit sprayers, mechanical planters and such like, costing several hundred pounds each, are out of the question, and more modest devices must be sought.

The first thing is to ensure that the ordinary tools in common use in any garden or workshop are of the best quality and design, and suitable for the purpose. A man will do much better work with a well balanced fork or spade of suitable weight, than with a cheap badly balanced tool which is too heavy for him.

The next step is to review the possibilities of utilising some of the more simple hand operated devices of modern design.

Among these are :—

- (a) A good powder sprayer, for applying derris powder, and other insecticides, in powder form. These are quite cheap and give much quicker and better results than dusting through a muslin bag.
- (b) A good hand operated sprayer for spraying insecticides in liquid form on fruit trees, potatoes and other vegetables. These are made in three forms. The smallest like a large "flit" gun, another operated from a bucket like a "stirrup"

pump and a larger one of knapsack pattern, the container of which is strapped on the operators back.

- (c) A single wheel push cultivator. This is an appliance like a small plough which has various fittings for various gardening operations. One of the best is the "Wrigley" Cultivator made by Wessex Industries (Poole) Ltd., Dolphin Works, Poole, Dorset, and costing just over £6 complete with essential fittings. It can be used for hoeing, ploughing and deep cultivation. A rake and seed drill can also be fitted, but for a small vegetable garden these are not essential. This cultivator is very light, yet robust and easy to use, and is invaluable for hoeing between rows of vegetables. If used extensively it is important to adjust the distance between the rows to the dimensions of the blades.
- (d) Unless it can be applied by a hose, from a piped supply, it is doubtful if extensive watering of the vegetable garden is advisable. There are, however, always a few of the choicer vegetables—such as lettuces, cucumbers and outdoor tomatoes—which it is advisable to water during a drought such as that of the summer of 1947. If the carry is a long one it pays to have a small container on wheels of from ten to twenty gallons capacity. These are expensive to purchase, but a handy blacksmith can make one at a reasonable price.

The above are a few examples of the type of simple and inexpensive labour saving device suitable for the small man. Experience and the perusal of trade catalogues—such as that issued by The Country Gentlemen's Association Ltd.—will suggest others and the resourceful reader will invent some for himself.

If the holding is a large one it may be sound to invest in slightly more elaborate machinery. For a holding of ten acres the following are possibilities :—

- (a) A petrol driven grass cutter, for cutting grass in Orchards.
- (b) A small type of power sprayer for fruit trees.
- (c) A petrol or electrically driven saw for cutting up timber.
- (d) A power driven hedge clipper. If one of these is purchased make sure that it is really suitable for the purpose. Some of those on the market are only suitable for light work on garden hedges and cannot compete with a strong growing rough farm hedge.

In these days of shortages and changes in design it is not possible to give details of all the various makes and designs of these implements. Most of those suitable for a small holding can be purchased for something between £25 and £65 each, and details can be obtained from The Country Gentlemen's Association Ltd., and other dealers in Agricultural requirements.

I will conclude this Chapter with a few remarks of a less material nature. Many readers will have had considerable experience in handling labour and for these my remarks will be redundant. Nevertheless, the subject is such an important one that I make no apology for including it. However well organised, and however highly mechanised your holding may be, you are almost certain to employ *some* labour, and upon its efficiency your success will largely depend. Whether it be regular or casual labour you will want willing workmen who will study your interests, and you will not get that unless you treat them "right." Treat them as men and friends, not as human machines merely doing a day's work for a given sum of money. Get them interested in the show. An occasional chat over a pint of beer and a cigarette at the end of the day's work—even if it takes place during working hours—will not be wasted and will often make a hitherto indifferent workman into a good one.

In the case of regular workers some form of profit sharing, or annual bonus for good results, is suggested.

In many districts the conditions of labour are governed by custom—a small share in the produce, a ration of cider (in the West of England) or a goose at Christmas. Do not neglect these local customs. They have been going on for centuries and if you *do* neglect them it will be resented.

CHAPTER III

ACCOUNTING, RECORDS AND STATISTICS, TAXATION AND LEGAL MATTERS

I.

GENERAL

A CERTAIN amount of "Office" work is necessary for a holding of this sort. Accounts must be kept and certain records maintained ; but these should be of the simplest kind.

It is very important that they should be *really* simple or they will become a burden and take up too much time. I once knew a poultry farmer in a big way who nearly brought himself to ruin by a mania for accounting and record keeping. He maintained a large office with every sort of ledger, cash book, analysis book and the like. The walls of the Office, and other buildings, were adorned with graphs, and highly coloured charts, showing the number of chickens on the farm on given dates, their ages and sex. Others showed egg production, quantities of food in store, etc. He insisted on keeping all these himself and spent most of the day entering and checking them. It was all very interesting, but it left him no time to supervise the main work of the farm—which was egg production.

On a small holding the office work should not exceed about half an hour per day including correspondence, except perhaps at the end of the Month, Quarter or Year.

It is important that you should know something about legal matters, including Income Tax, as it affects country property owners and farming. If you have some knowledge of these subjects you will save a lot of time and expense.

You must also have some means of becoming acquainted with the numerous Government orders and instructions regarding price control, reporting disease, etc. which in these days are issued at a bewildering rate.

The object of this Chapter is to give an insight into all these matters.

II.

ACCOUNTING

Some readers will be experienced Accountants and quite capable of devising their own system ; but for those who are not the following books are suggested :—

- (a) *Pocket book* which is always carried about and in which cash purchases and other information are recorded at the time.
- (b) *Combined bank, cash and analysis book*, in which all bank and cash transactions are recorded. This also enables one to see at a glance the receipts and expenditure for each department of the holding. (For specimen see Appendix D).
- (c) *An equipment book*. This is a simple record of all moveable property connected with the holding—such as garden tools, beehives, moveable chicken houses, etc.

Expendable commodities such as fertilisers, sugar for feeding bees, string, etc. are not equipment, but stock. Live stock is also “ stock.”

Fixed property such as permanent outbuildings, gates, permanent fences, and trees, are neither equipment or stock, but part of the freehold of the property.

The equipment book should consist of a number of columns. Whenever you purchase an article you enter the date of purchase in the first column, a description of the article in the second, its probable “ life ” and annual depreciation in the third and its cost price (or estimated value) in the fourth.

There should then be several other columns in which its value (after deducting depreciation) can be inserted at the end of each financial year. By adding up the appropriate column throughout the book you arrive at the correct value of all your equipment for your annual balance sheet.

It will be appreciated that the annual depreciation of an article is arrived at from its estimated life and cost price. If you bought a wheelbarrow on 1st January 1946 for £4 and estimated it would last eight years its depreciation is obviously 10/- per annum. On 1st January 1947 it is worth £3 10s. *od.*, a year later £3 and by 1st January 1954 it is theoretically worn out and worth nothing.

The equipment book is rather troublesome to start, but once started is not difficult to maintain. It is most important to keep it correctly and make proper deductions annually for depreciation. Unless you do so you will get a false impression of your profits. (For specimen see Appendix E).

- (d) *Stock book.* The object of this book is to maintain a record of stock (i.e. expendable commodities as defined under (c) above) purchased, expended and on hand. All stock is entered with its value on purchase and an entry made each time some is expended. By a little simple arithmetic you always know approximately how much you have on hand. Livestock—although stock—requires somewhat different treatment as it tends to increase in value. The day a chicken is hatched it may be worth only 1/-, but in six months time it is probably worth 25/-. A newly formed colony of bees may not be worth more than 30/- initially, but increases in value to £5 or so as it grows in strength.

Unless the holding is a big one the stock record may well be kept in the back of the property book.

On a very small holding a record as described above is not necessary, provided a stock taking and valuation is made at the end of each financial year.

- (e) *A Ledger*, in which to record all credit sales and payments received.

Some may wish to keep a similar ledger for purchases ; but as I pay cash for practically all my requirements I have never found this necessary.

In my experience these are the only account books required, and once you have started them they do not take more than a few minutes per day to maintain. *It must be a golden rule to make daily entries.* If you only do so once a week you are certain to forget some items and the accounts will not be accurately kept.

Now a few words about starting your accounting system. The first thing to decide is your financial year. Many people consider 1st January to 31st December to be the most suitable, as most farming operations end in Autumn ; and mid-winter, being a slack season, is a suitable one for carrying out the additional work of closing the accounts for the year, stock taking and drawing up the balance sheet. On the other hand the period 6th April to 5th April has much to commend it, as it coincides with the Income Tax year and simplifies the Income Tax Assessment return. In Section IV of this Chapter it is explained that Income Tax on land can be assessed in three different ways (a), (b) or (c). (a) and (b) are both arbitrary figures not based on actual profits. Under either basis of assessment there is no objection to the financial year commencing on 1st January. An assessment under (c) however, is based on actual profits, as shown in the accounts, and on this basis it is much simpler if the financial year commences on 6th April. Whichever date you decide on it will be some advantage to commence your first year on that date, but this is not essential. If you start on some other date, say 1st September, it will merely mean that your first "year" will not be a complete one. The point is that you must decide on a definite date and not just "drift" into keeping accounts.

It is strongly recommended that a separate banking account be opened. If you mix up your private

finances with those of the holding it will inevitably lead to complications and inaccuracies.

Having decided the date for commencing operations, opened a Banking account and got the few simple books recommended ready well in advance, the next thing to do is to draw up an initial Balance Sheet showing all your Assets and Liabilities (if any) on the opening date. The Assets will consist of a list of everything you possess and its value—Bank balance, cash in hand, equipment, stock (including live stock) and any money owing to you. The Liabilities will consist of any money which you owe. The balance of Assets over Liabilities will be the balance of the Balance Sheet—i.e. what you are worth as a smallholder.

In compiling your Balance Sheet you will have to consider how you are going to treat your house and land (assuming that you are the owner and not a tenant). There are two methods of dealing with this. You can treat your house as a farmhouse and include its value and that of the land in the Balance Sheet, or you can have, as it were a dual personality and regard yourself in a, private capacity as the Landlord and charge rent to yourself for the land as a smallholder. Under the latter system an annual rent will appear in the accounts of the holding—payable to yourself as landlord. This should be a fair rent and not just the first figure that comes into your head. On the whole I think this is the best and simplest method.

Again, if you are a handy man you will almost certainly have a workshop in which you will make various things for your holding—a chicken house or beehives, seed boxes, trays for storing apples etc. The simplest way of dealing with these is by the “dual personality” method. Make them as a private individual and then sell them to yourself as a small holder at cost price (including a fair amount for labour).

At the end of each financial year (or every six months if you like) you must draw up a new Balance Sheet, showing your Assets and Liabilities on the last day of the year. This will be similar in form to your initial

Balance Sheet, but will include a deduction to your equipment values for depreciation and will probably have more entries on the Liability side.

There is no need to draw up a "Profit and Loss Account" as is done in big business. If the Balance Sheets are correctly compiled your profit (or loss) is the difference between the Balance of the year just completed and the previous year—e.g. if your balance was £510 on 31st December 1946 and £650 on 31st December 1947 the profit for 1947 was £140.

I have given a brief description of accounting in its simplest form as I have found it applicable to a small holding. I realise it may not be in accordance with the most up to date methods as practiced in big industrial undertakings; but I have found it accurate and easy—and it will satisfy the Income Tax authorities.

To those of my readers who are well acquainted with the best methods of accountancy I offer my apologies, if some of my remarks appear elementary.

Anybody wishing to study the finer points of Farm Accountancy is recommended to read "Bulletin No. 58"—"A simple System of Farm Book-keeping" which can be purchased from His Majesty's Stationery Office—price 7d. post free.

III.

RECORDS AND STATISTICS

The books recommended in Section II are for accounting purposes only. There are, however, other records which it is necessary to keep and some which may be desirable according to the nature of the holding.

The following are suggested as being necessary on most holdings :—

(a) *General*

A Diary for entering appointments, etc. The C.G.A. issue a very suitable one annually to all their members.

An address book of the various firms and individuals with whom one has dealings, showing also their telephone numbers and business or profession.

House book in which you enter every item, with its market price, brought from your holding into the house for household consumption. This is not essential in every case, but under certain conditions (See Section IV of this Chapter) may be necessary for Income Tax purposes. In any case it will be of considerable interest, and you will be surprised at the amount involved.

(b) *Vegetable Garden*

A cropping chart.

A manuring chart.

A variety record.

This is very desirable for the first few years, when a number of varieties of different types of vegetables should be grown to find out which suits local conditions best. It is possible to combine this with the Cropping Chart, but it makes it rather large and cumbersome.

(c) *Orchard and Soft Fruit*

A record book to show dates and other details of spraying, pruning, manuring, annual yield, etc.

(d) *Bees*

A record book with two or three pages for each hive, showing when the various operations—such as feeding, requeening, etc. are performed. Some beekeepers prefer to keep a record card under the roof of each hive, but this entails visiting the hive and removing the roof every time you want to refer to the record.

(e) *Poultry*

A graph showing daily egg production.

These are the most useful records under normal conditions, but they can, of course, be varied to suit different circumstances.

IV.

TAXATION

The only form of Tax which it is necessary to consider under this heading is Income Tax.

Any individual who deliberately withholds information about his income, or makes false statements in his annual return, is defrauding his fellow men and is no better than a common thief.

The law, however, provides numerous reliefs and allowances from Tax which may easily escape notice, or the facts may be difficult to substantiate, unless the Taxpayer is reasonably well acquainted with the subject. This is particularly so in the case of Landowners and those engaged in agriculture.

In a book of this kind only a few pages can be devoted to this subject ; but I will attempt to summarise the matter as it affects the class for whom this book is intended. It will assist the reader to understand the following paragraphs if he has an up-to-date form for the assessment of Income Tax in front of him.

The ownership of land, except however small areas of less than about one acre, is assessable under Schedule " A " for Income Tax purposes, and in addition the profits from the occupation thereof are assessable under either Schedule " B " or Schedule " D." Arising from this an individual will fall to be assessed under one or other of the following three categories :—

- (a) A private individual may occupy land mainly for the purpose of amenity and pleasure—the ground consisting of lawn, herbaceous borders, shrubbery, etc. In this event he will be assessed for tax on amenity value only ; that is the Schedule " B " assessment is based on one-third of the gross Schedule " A " assessment. Under these conditions the occupier may reserve a portion of his land as a kitchen garden, small orchard, poultry enclosure, etc. for production for the use of his own household.

He may even sell some of his produce, and provided this is not excessive, it can be regarded as the surplus from his garden and he may still remain on this basis of assessment.

- (b) In the second case the individual may occupy an area for the purpose of agriculture, whether arable or pasture, as a small holding with various types of livestock—poultry, goats, sheep etc.

In this event (provided the annual value does not exceed £100) he can be assessed as a small holder,* in which case his assessment under Schedule "B" is three times the Schedule "A" assessment. If his assessment under Schedule "A" is £10, his assessment under Schedule "B" will be £30, and even if his profits are £500 per annum he will not pay more.

In the event of the profits being less than the assessment under this arrangement, he can make a claim for a reduction in the Schedule "B" assessment.

If he incurs a loss he can claim that the assessment under Schedule "B" be reduced to Nil, and the actual loss be set against other sources of income with a view to a reduction of tax on these.

- (c) In the third case the individual may cultivate the land intensively as a market garden run on commercial lines. In this event the basis of assessment is under Case I of Schedule "D," upon the profits of a trade. The assessment is based on the actual profits disclosed by the annual accounts and there is no upper limit as there is in (b) above.

It is evident that there is considerable scope for differences of opinion as to whether an individual comes under (a), (b) or (c). Probably those with a "Small" holding as defined in Chapter I, Section III can legitimately claim to be in category (a), whereas those with "Medium" or "Large" holdings will come within

* Note :—In other parts of the book the term "holding," "small holding" and "small holder" are used in a general sense. In this section they are used in a strictly legal sense—as applicable to taxation.

(b) or (c).

In particular the dividing line between (b) and (c) is likely to be a matter of contention. For the average holding, as visualised in this book, it will be a great advantage to be assessed under (b), but in many cases it will be difficult to establish a claim under this assessment—in view of the intensive form of cultivation recommended.

It is clear that the whole question should receive very careful consideration from the outset, and the following procedure is recommended :—

- (1) Preliminary discussion with the County Horticultural Officer, or some other member of the County War Agricultural Executive Committee prior to commencing operations, with the object of establishing a holding, or market garden, which is suitable from an agricultural aspect and also the most advantageous from the Income Tax point of view.
- (2) As a result of (1) a thorough consideration of your own particular circumstances. This should enable you to decide the form of income tax assessment at which you propose to aim. As this may not necessarily coincide with the view of the Inland Revenue it will be as well to discuss the matter with a solicitor, or some other expert, so that you are armed with all the necessary facts and arguments to support your claim.
- (3) Finally, if you have any doubts, it is probably wise to arrange an interview with a representative of the Inland Revenue Department and discuss the matter with him. Contrary to popular belief these officials are not always the “blood suckers” they are made out to be. In most cases they are out to help the Taxpayer and they appreciate frankness. A personal interview, provided you have sufficient knowledge of the subject to state your case properly, may accomplish more in half an hour than months of correspondence.

If you come under (c)—i.e. pay tax on your actual profits—it is important to make certain that *all* your legitimate expenses are entered on the expenditure side of the account. As pointed out in Chapter V, items such as postage and a share of over head expenses (light, fuel, insurance, car etc.) are liable to be overlooked, in which case you will show a higher profit than the actual one.

At this stage it will be as well to point out that in certain circumstances relief from taxation can be obtained in respect of :—

Maintenance Claims (applicable to owners) only and Capital Expenditure Claims (applicable to owners and tenants).

In other words an Owner who has unduly heavy expenditure maintaining his property, or an owner or tenant who incurs certain kinds of capital expenditure can secure a reduction of Income Tax.

In general terms it may be said that Maintenance Claims are based on the average of the five preceeding years and Capital Expenditure claims on recent Capital expenditure—in the latter case tax relief being spread over a period of ten years.

The conditions appear somewhat complicated to those not well versed in Taxation matters, and in such cases expert advice should be obtained. It is essential to keep detailed records of expenditure, and be in a position to produce receipts, if a claim under either of these headings is likely.

It has been emphasised in other Chapters that produce taken into your own household is usually a greater source of *actual* profit (as opposed to *cash* profit) than that from produce which is sold; because in most cases it is Income Tax free. This matter, however, requires some consideration, to make quite certain that one is on the right side of the law.

If tax is paid under (a) or (b) above, the question does not arise, as the assessment is made on an arbitrary basis irrespective of actual profits. In case (c), however, some care is necessary, as under certain circumstances the cost of produce brought into the house may have to

be shown as a sale on the receipts side of your account. This will be so if the land from which the bulk of your household needs are met forms part of your market garden, because in that event the labour and other expenses connected with it will be shown on the expenditure side of your market garden account. It may be found best not to include such land as part of your market garden, but as part of your private garden assessable under (a)—provided the land can be conveniently divided (i.e. an actual “physical” division can be made). In this case any labour or other expenses must be treated as a private matter and not included as part of the expenses of your market garden.

The foregoing is a very brief introduction to the subject of Taxation as it affects the small scale agriculturalist. The basis of assessment is largely one of degree ; but in my experience the Taxation authorities are not unreasonable—indeed often very sympathetic—towards any individual who cultivates the land and shows common sense and frankness.

For a complete grasp of the subject at least some knowledge of agriculture, taxation and accountancy is necessary, and the novice may be well advised to consult an expert at the outset. The Taxation Specialist of the Country Gentlemen's Association Ltd. is strongly recommended.

Although strictly speaking detailed accounts are only necessary in the case of an Assessment under (b) or (c) it is as well to keep them under all circumstances. Apart from their interest value, they may be useful in the event of a dispute with the Taxation Authorities on the basis of assessment.

It will be as well to conclude this Chapter with a few examples :—

Example 1

In this case it will be assumed that the area is a small one—say one and a half or two acres—partly flower garden, tennis court, etc ; but with a fair proportion devoted to kitchen garden, a small orchard, fruit planta-

tion, bees, chickens, etc. The household is a large one and the bulk of the produce is for household use.

The owner does most of the work himself, his expenses in labour and incidentals being only about £50 per annum, whereas the produce for household use is worth about £120 per annum.

This is a good case for assessment under (a) and obviously this is the most advantageous form of assessment. Assuming that the Schedule "A" assessment is £9 the net profit from the undertaking will be approximately as follows :—

Produce brought into own household	£120 0 0
Less :—	
Labour and incidentals ..	£50 0 0
Schedule "B" Assess- ($\frac{1}{3}$ of Schedule "A")	3 0 0
	53 0 0
Net profit	£67 0 0

Example 2

Assume that an individual has some four or five acres of orchard, vegetable garden, soft fruit plantation, etc., and also keeps poultry and bees. Other relevant figures are :—

Schedule "A" assessment	£ 12
Produce brought into household, say ..	£80
Sale of Produce, say	£400
Labour and incidental expenses, say ..	£250

In this event he will either be assessed under (b) or (c), but it will be greatly to his advantage to establish a claim under (b). If he is successful in this his net profits will be approximately as follows :—

Produce brought into own household	£80 0 0
Sales	£400 0 0
	£480 0 0

Less :

Labour and incidental expenses	£250	0	0
Schedule " B " assessment (3 times Schedule " A " assessment)	36	0	0
		£286	0 0
Net profit		£194	0 0

If the assessment is made under (c), and assuming that there are other sources of income, it is likely that he will be liable for 9/- in the £ (at the present standard rate of tax) on £230 in which case his net profit will be considerably less.

The question of whether he is assessed under (b) or (c) is, of course, one of fact, but it is open to considerable differences of opinion. If the land is cultivated intensively on market garden lines an assessment under (b) will be difficult to establish and one under (c) may have to be accepted. In the latter case it may be advantageous and feasible to keep that portion of the land which supplies the household requirements separate and have it assessed under (a)—bearing in mind that all charges against it then become a private matter, outside the scope of your market gardening activities.

Example 3

In this case it is assumed that the area under cultivation is three to five acres. The soil is not good, the Orchards consist of old trees in poor condition and you are unable to devote much of your own time to the property. You anticipate that the produce (including that for your own household) will not exceed £250 per annum in value, and that the labour and other charges will be about the same. The profit in any case will be small and you may incur a loss. If this condition is likely to be permanent it is of little consequence whether the assessment be under (b) or (c), as in either case a loss

can be set against other sources of income. On the other hand an assesment under (b) may be advantageous if the holding is likely to improve in a few years and then show a substantial profit. The policy of claiming one basis of assessment when a property is in the development stages, and then claiming another basis when it becomes an established concern, is likely to lead to difficulties and is not generally advisable. It will be appreciated that in a case of this kind, whether the basis of assessment be under (b) or (c), it will be very important to keep accurate accounts.

It may be argued that an undertaking of the kind given in this example is hardly worth bothering about. In these difficult times, however, almost any land is worth cultivating and the patriotic citizen may not always be influenced by the purely financial aspect.

After Note (April, 1948).

As a result of the Chancellor's Budget speech on 6th April, 1948, it appears that from 1949-50 onwards some classes of small holders, if not all, will cease to benefit by being assessed on annual value under Schedule B, and will be assessed on actual profits. Details are not available yet; but this point should be carefully watched, and investigated, by those in the small holding category.

V.

LEGAL

Under the British legal code everybody is presumed to know the law. This must obviously be so, otherwise every criminal could plead ignorance. In practice, of course, nobody has a complete knowledge of the law—not even the most learned judges. The most the ordinary individual can hope for is a general sense of right and wrong, and some detailed knowledge of the law as it affects his particular occupation.

The average reader is not likely to be seriously troubled by the more old established laws, regard for which is almost automatic. In recent years, however,

the systems of controls, resulting from war and post-war conditions, has made it necessary for even the most law abiding citizen to watch his step, lest he do something illegal. These controls are mostly exercised by means of Ministry "orders" and embrace a wide variety of subjects—controlled or maximum prices, rationing of feeding stuffs, permits to purchase various materials, control of crops sown, their use and disposal, control of building and repairs and a variety of similar matters. Obviously it is not possible to enumerate all the items included in this comparatively new form of legislation. In any case it would be impracticable to do so, as the "orders" are added to, amended and cancelled almost daily. Any list would be hopelessly out-of-date in a few weeks. The following are typical examples of the control of agricultural activities by means of Ministry orders.

(a) *Price Control*

This covers a wide variety of produce, and the maximum prices vary according to the season of the year and in many cases according to the district. The maximum prices must be adhered to by everybody, whether they be commercial producers or dealers or merely private individuals selling a small surplus from their gardens.

In some cases, such as honey, only the maximum retail price (2/9d. per lb. in 1947) is laid down, and distribution is decontrolled at all stages.

In other cases, such as potatoes (from November 1947) and apples (1946) prices have been controlled at all stages—grower, wholesale and retail.

(b) *Jam and Bottled Fruit*

In the case of jam made from the produce of an individual's own land, if the amount exceeds thirty cwts. in any twelve months, a licence is necessary—for which proof of a sugar usage during the year ending June 1939 is necessary. If under thirty cwt. proof of a sugar usage must be given to the Local Food Office covering the same datum period, or alternatively evidence that grounds for a concession led to actual sugar allocations being made at some period since July 1939.

No licence is now necessary for bottling fruit or tomatoes, and no allocations of sugar are made for these purposes. Licences are required for canning and quick freezing fruit and vegetables for sale if more than twenty cwt. is preserved in any consecutive twelve months. Sugar is allocated only to licensed canners or quick freezers. All bottled fruits are subject to price control.

A licence is necessary to manufacture apple juice and the product must conform to the description given in the Soft Drinks Order 1946 No. 945.

It is clear from the above summary that the difficulties of obtaining sugar almost prohibit jam making and bottling, except on a small scale for household use.

(c) *Permits*

Permits are necessary over a very wide range of activities.

A permit from the local authorities is necessary for the construction of any building or outhouse, and for repairs to any building or outhouse exceeding £10 in any half year.

Many kinds of material used in agriculture—such as large quantities of wire netting, timber (except salvaged timber) require a permit, as do feeding stuffs for chickens and other livestock—including sugar for feeding bees.

In fact before commencing any new department, constructional work or repairs it is essential to investigate the question of controls and permits at the outset.

The question naturally arises as to how the agriculturalist can be expected to keep pace with these new orders and amendments to existing ones concerning price control, licences, permits, etc. and with new legislation. H.M. Stationary Office publish a Daily list of Government publications on these matters, and under certain conditions an individual can be placed on the mailing list for this schedule of publications. This is hardly necessary, however, for an individual farming in a small way. A better plan is to arrange for H.M. Stationery Office to send what is known as their

“ Monthly List of Statutory Rules and Orders ” which will keep the individual reasonably up to date.

Every employer of labour, even if he only employs very occasional casual labour, should take out an Insurance Policy covering claims under the Workmen's Compensation Act. The annual premiums are very small ; but it is important to make certain that the policy covers every type of labour which the policy holder is likely to employ. Some policies exclude female labour or casual labour.

I will conclude this very brief Section by quoting what I regard as the three golden rules in connection with legal matters :—

- (a) Avoid litigation if you possibly can. Most disputes can be settled mutually by exercising a little tact and common sense.
- (b) Remember that the saying “ A little knowledge is a dangerous thing ” is particularly applicable to the law. Always seek legal advice if you have the misfortune to become involved in any legal matter which is at all complicated. Many official bodies and publications give a free advisory service to their members and readers on legal and other matters of individual interest.
- (c) If you are doubtful on any matter of detail—such as price control, the necessity for a permit, etc—always ask the appropriate authority—Food Office, Local Borough Surveyor, County War Agricultural Executive Committee or whoever is concerned. In most cases a telephone call is all that is necessary, and if you do happen to get on to the wrong Department they can usually indicate the correct one.

CHAPTER IV

THE BUSINESS SIDE—MARKETING AND PURCHASING

I.

GENERAL

BUSINESS ability is an important factor in success in every undertaking which involves production, buying and selling.

Many highly qualified and technically efficient people—engineers, doctors, architects as well as farmers—have been unsuccessful financially because they either lacked general business ability or did not bother to work on business lines.

The type of agriculturalist for whom this book is written will probably find himself at some disadvantage in his business dealings. He will be regarded as an amateur—not quite the usual run of small holder or market gardener. Unless he makes clear from the outset that he is out to do business, not to give things away, he will find that it is his privilege to get the worst of a bargain. This is very flattering, but it is not quite the aim and object of running a holding. I have sold a few surplus lettuces from my garden for 2*d.* each only to find that the same man was paying 3*d.* each to other people for lettuces slightly inferior to mine. In 1947 the standard rate for Cider apples in the South-West of England was 14/- per cwt. A friend of mine—not engaged in commercial agriculture—was expected to sell locally a small quantity which he had for disposal at 5/- per cwt.

What may be termed “business instinct” is not part of everybody’s make up, but it is essential to acquire some degree of proficiency in this direction if one is to be a successful agriculturalist.

The aim must be to get a fair price for your produce and give a fair price for your purchases. Never attempt to be too "smart," you will get a bad reputation and be "done" sooner or later. One of the surest ways of building up a good reputation and always having a ready market, is to supply produce of the highest quality—just a little better than other peoples'. Politeness is also an important factor.

It is not uncommon in these days to be offered prices in excess of the maximum controlled price. In 1946 there was a considerable "Black Market" in honey. The controlled price of a commodity can be obtained from any Food Office (usually by means of a telephone call), so there is no excuse for illegal business of this kind.

II.

MARKETING

If your holding has been developed and is organised on the lines recommended your chief produce for sale will be apples and other orchard fruits. You will, however, probably have small quantities of surplus vegetables, soft fruit, etc. for disposal. These small quantities are best sold locally; they are just not worth the bother of packing and despatching long distances. Very often it is not even necessary to take them to a shop, as they can be disposed of to friends and acquaintances.

The various types of produce from a holding are subject to different methods of marketing—according to their keeping qualities :—

- (a) Highly perishable produce—such as most vegetables and all soft fruit—must be marketed within a few hours of gathering.

This is one of the main reasons for not recommending the production of commodities in this category for sale; but obviously if there is a surplus it should be marketed locally.

- (b) Other produce—such as some orchard fruits and eggs—are not highly perishable, but must be marketed within a period varying from a few days to two or three weeks. These are clearly less irksome to market than those in Category (a) and can be sent further afield.
- (c) The last Category includes those commodities which keep for a considerable period—Honey and many varieties of Dessert and Cooking Apples. The convenience in marketing these is the chief reason for recommending Apples and Honey as the main products for sale. There is, however, no point in storing commodities unless there is an expectation of higher prices later, and this will depend very largely on whether prices are controlled or not. If they *are* controlled (as apples and honey were in 1946), and your products are of good quality, it is nearly always possible to sell at the maximum controlled price immediately after harvesting. On the other hand if there is no price control it will often pay to store apples until February or March, and honey even longer, and and reap the benefit of higher prices which scarcity is almost certain to produce. The problem is not always quite as simple as I have outlined. In 1947 home produced extracted Honey was controlled at 2/9d. per lb. until 8th November, and most people had sold their supplies by then. Those who *had* stored a proportion realised 3/6d. or more per lb. when the control was lifted—but whether this sharp rise was justified or not is another matter.

I have emphasised the importance of business acumen in ones dealings; but this does not, in my opinion, justify asking unreasonably high prices, even if they can be obtained. The efficient small-holder should be able to work out his costs of production and he should not demand more than a fair share of profit. I feel that in this respect the farmer should set an example to the rest of the community.

As the marketing of Orchard fruit will be the chief problem it will be as well to consider the matter in some detail—assuming that apples are the main crop.

If you decide to sell your apples on the tree the only thing necessary is to get somebody to quote a price and let him get on with the business. As pointed out in Chapter VII, this method is not recommended, as it may lead to damage to the trees and will not result in the maximum profit.

The method of collecting small and blemished apples, for sale for cider, is also described in Chapter VII. In cider districts there is little difficulty in disposing of these to cider makers ; but in non-cider districts it is more difficult, and may involve despatching them a considerable distance by rail.

The marketing of the choice dessert and cooking apples—which will probably be the main produce from the holding—should receive very careful attention. Among others the following matters will require consideration :—

- (a) Are you going to sell them all as soon after picking as possible, or store the good keeping varieties until Christmas, or later, in the hope of getting a better price ?
- (b) Who are you going to sell them to ? If you do not know of anybody the County Horticultural Officer will be able to advise, and probably give you the names of two or three big firms who will take the whole crop. It will then be for you to fix up the best bargain you can.
- (c) Method of packing, grading and delivery. By far the best method is to discuss this matter with the purchaser, and if possible pack and grade them according to his requirements. Similarly, it is a matter for mutual arrangement as to whether you deliver them or he collects them. In the first instance these arrangements will probably be made verbally, but they should always be confirmed in writing later.

It would be quite possible for me to give details of every sort of container and package for every type of produce—trays, flats, sieves or bushel baskets, chip baskets, barrels and many others—returnable and non-returnable ; but the list would be a very long one and is hardly necessary. As I have stated, the best method is to find out how the purchaser wants the produce packed and comply with his requirements whenever possible.

Bottles for extracted honey are of various shapes and sizes, the kind known as “ 1 lb. squat ” being by far the most convenient in my experience.

Those who wish to obtain details of the various types of containers and packages would do well to write to the Country Gentleman's Association Ltd., or study the Advertisements in a trade journal, such as the “ Fruit, Flower and Vegetable Trades Journal.”

III.

PURCHASING

Throughout your career as a Small Holder or Market Gardener you will be making purchases almost daily. In the early stages of development, when you are getting your equipment together, you will be spending quite a lot of money, and your success will largely depend on the suitability and quality of the articles you buy. It is, therefore, just as important to be a good “ buyer ” as a good “ seller.”

In making purchases the following points should be considered :—

- (a) Whether the article is really necessary—i.e. that you cannot make it yourself from odd materials lying about the place.
- (b) That it is the most suitable kind available for the purpose.
- (c) That it is of good quality. It usually pays to buy the very best, but there are exceptions to this rule—such as a temporary wire netting fence round an

Orchard of young trees. This will probably be taken down in a few years and, therefore, need not be of the very highest quality.

- (d) That the price paid is the lowest possible consistent with (c).

One of the novice's greatest difficulties is to know *where* to purchase, and in this connection I would offer the following suggestions :—

Common articles for which there are standard qualities—such as nails, screws, small tools, buckets, wire, etc.—are best purchased at a local shop.

More expensive items—such as the larger garden tools, bee hives and other beekeeping equipment, poultry houses, etc. should be bought from firms who specialise in the particular article required.

Machinery and complicated apparatus—such as a Power sprayer, incubator, power driven grass cutter and the like—require very careful consideration. They are expensive and it is important to make certain you get the type most suitable for your purpose. It will usually be best to get advice from the appropriate expert on the County War Agricultural Executive Committee, or to consult somebody who possesses a machine of the kind you think you require.

Livestock, Fruit Trees and Bushes

All livestock and most fruit trees and bushes (including strawberries) are subject to disease, and it is of first importance to purchase only from individuals and firms of the highest repute. It is most unwise to deal with friends and acquaintances who may, quite innocently, sell you diseased stock. The same remarks apply to purchasing second hand poultry houses and bee hives. Unknown to the seller these may carry the spores or germs of disease. Bees are perhaps in a slightly different category to other livestock, as many of the most efficient and modern beekeepers are amateurs (see Chapter X, Section IV, last paragraph).

Vegetable Seeds, Seed Potatoes, etc.

Small local Nurserymen sometimes supply seeds of local varieties which are particularly suitable for their own district ; but as a general rule it pays to deal with one of the big firms who specialise in the production of high class vegetable seeds. These firms—many of whom are almost household names—have a very high reputation for the quality of their products, and it is foolish to obtain seed from less reliable sources.

In Appendix C, I have given a list of Individuals and Firms who supply most of the commodities which the readers of this book are likely to require. I have had personal dealings with most of those listed, but in a few cases they are either firms of known repute or have been recommended to me by friends. There are, of course, many individuals and firms of the highest repute not mentioned in the Appendix.

If the reader is in doubt as to the best source for obtaining any article or commodity he should not hesitate to consult the County War Agricultural Executive Committee or the Country Gentlemen's Association Ltd.

CHAPTER V

RUNNING AN ESTABLISHED HOLDING

I.

ORGANISATION

EVEN if one acquires an established holding it will take a year or more to shape it to your liking and get the full return from the labour expended.

If you have to develop it yourself it will take much longer. It will take two seasons to discover which varieties of vegetable do best in your soil. A colony of bees rarely does its best the first year. Most soft fruits take two or three years before producing worthwhile crops and orchard fruit (assuming that bush trees are planted) require five or six years before coming into anything like full bearing—even if you plant three year old trees.

It may be said that after two years your vegetable garden, chickens and bees will be giving a good return : in three or four years your soft fruit will be a paying proposition and in five or six years the orchard fruit will give a good crop, and the holding can then be considered to be a going concern.

It is disregard of this time factor which has caused so many failures among ex-service men, and others, who have commenced small holdings and market gardening for a living with inadequate capital. Many have failed to realise that it is two years, or more, before profits began to come in and that in the meantime they have to live. In the case of most readers of this book such a situation will not arise, as it is not primarily intended for those taking up agriculture as their only means of livelihood.

Assuming that you have had an established holding for

two or three years, or one you have developed yourself for four or five, the position may be roughly as follows —

- (a) All departments, except perhaps newly planted orchards, will be in an established condition.
- (b) You will have gained experience regarding the particular conditions of climate and soil in your locality, and will know which things do well and which not so well.
- (c) If you are lucky you will have one or more good regular workmen and probably some reliable source of casual labour.
- (d) You will know the best places to buy things, and have a good idea of the best means of selling your surplus produce.
- (e) You will have a very good idea of what the annual income from your holding should be.

This is the ideal state of affairs after four or five years ; but, of course, you will be fortunate if everything is quite as good as I have depicted. It is more than likely that one or more departments of your holding will not have realised your expectations. That is normal in agriculture : do not think that a few failures are exceptional or due to bad luck, or even bad managements.

However, a time will come—probably in the Autumn of your fourth or fifth year—when you will be able to say “ The development stage is mainly over. I must now concentrate on running a going concern and making what improvements I can.” When this stage arrives it will be as well to carry out a thorough survey of things or in military language “ Make an appreciation.” Up to now you will have devoted much of your energy to development, possibly to the detriment of routine work connected with what should now be a running concern.

The following are some of the items which might be considered :—

(a) *Labour and Labour Saving*

Have you got the best possible labour and the right quantity—not too much or too little ?

Have you organised the holding in a manner which is economical of labour?

Have you got all possible labour saving tools and devices?

Are you employing your own labour to the best advantage?

You have probably worked very hard for the past few years and you are five or six years older than when you started. Make certain you are not doing jobs which could be better done by your man—or a casual worker.

Are there any jobs which seem to take up a disproportionate amount of time, such as weeding paths or accounting? If so, could they not be cut out, or reduced, by a small capital outlay (such as laying concrete paths) or simplifying the accounting system? Is time being wasted by using inefficient equipment—a sprayer that doesn't work properly, or some other things which are worn out or in need of repair?

(b) *Is the Holding correctly "balanced"?*

It has been pointed out in a previous Chapter that produce for the household—which may be tax free—should be given priority over that for sale.

Are you producing everything possible for the household, or is the vegetable garden just a little too small or the number of chickens kept just too few?

Conversely is the garden a little too big, and the surplus wasted or irksome to dispose of—as small quantities usually are.

It may be that your labour is not quite fully employed, and that you sometimes have difficulty in finding a job for your man. If so could you not extend the soft fruit plantation, or some other department, so that he always has enough to do?

All these matters should be carefully weighed and considered, with a view to minor adjustments which will make your holding a properly "balanced" one.

(c) *Purchase and Sales*

In the first few years your main preoccupation will be to produce things, or prepare for producing them. You may not have bothered much about purchasing in the best and cheapest markets or selling your produce at the best price and in the most convenient manner.

These are matters which, at this stage, should be investigated. Another $\frac{1}{2}$ d. or 1d. per pound for your apple crop will make a big difference to your profits. If you could knock off five per cent. of the price of all your purchases it would represent a very considerable saving per annum.

(d) *Elimination of Waste*

There are very few undertakings, whether private or business concerns, in which a periodical survey will not reveal waste, and this is particularly so in agriculture. On a badly run farm, or holding, it can amount to a very considerable sum. The following are a few of the items under this heading :

Timber

Are all the loppings from old trees being cut up for logs ?

Are hedge trimmings being stacked and later sold for kindling wood, pea and bean sticks ?

Manure

Is poultry manure being saved, and is all waste vegetable matter being put on the compost heap ?

If you have to purchase, and cart, farmyard manure you will find it very costly.

Picking

Is there any damage or waste in picking fruit—particularly apples ? Is every apple which is blemished, or too small for sale for dessert or cooking, put into a bag and sold for cider ; or are most of them left to rot on the ground ?

If these and similar items are reviewed you are almost certain to find ways and means of saving £'s a year.

(e) *Taxation*

Unless accurate accounts of all expenses are kept the market gardener is very apt to miss items and show a "false" profit. This may be reflected in the amount he pays in Income Tax. At this transition stage—from development to running a going concern—it will be as well to review the accounting system in relation to Income Tax. No doubt the more obvious and straightforward purchases and expenses will be entered up, but there are others less obvious : but which are, nevertheless legitimate expenses against the gross profits of your holding. Some of the more common omission are :—

Postage

This may amount to quite a lot per annum and is often not accounted for.

Use of Car

If you own a private car and say one third of your total mileage is connected with your holding you are entitled to charge this against your expenses—namely a third share of petrol, oil registration fee, insurance, depreciation and repairs.

Light, Fuel and Accommodation

If you run your house as a private concern, apart from the holding, but do your Office work in a room of the house, you can charge a proper proportion of the lighting, and fuel and also rent, hire of furniture, etc., as an expense against the holding. If you feel that this question is too complicated, and beyond your legal experience, do not hesitate to consult a Solicitor who specialises in Income Tax, or some other expert. He may save you his fee many times over.

II.

THE SMALL HOLDERS YEAR

I will not attempt to tabulate in detail the numerous tasks in the various departments of a holding which have to be performed month by month ; but I will give, in general terms, the activities for the four seasons of the year—Winter, Spring, Summer and Autumn.

In most agricultural matters the year may be said to end in September or October and a new year commence about the same time. By October the growing season has ended in most districts and the fruits of ones labours are mostly harvested—orchard and soft fruits, honey etc. In the kitchen garden the quicker growing crops have been eaten or gathered in for storing. Only those vegetables for winter use—the more hardy of the cabbage family, leeks, celery and Jerusalem artichokes remain dormant in the ground, ready to supply the household as required. This then is the time to take stock of the past season, make note of successes and failures and plan for the next year.

Winter (November, December and January)

If it has not already been done no time should be lost in examining all sheds, outhouses, greenhouses, frames etc., for repairs necessary to make them weather proof during the winter months. Unless essential work in this direction is finished by early November the bad weather will have set in and it will be too late.

Vacant ground in the Vegetable garden should be dug up and manure or compost dug in. If this is left too late in may become too wet, or too frosty, for digging. Do not break the earth up ; leave it rough in large clods to “ weather.”

In January some of the earlier garden vegetables—such as Broad Beans, Lettuce and even a row of Peas—can be sown under cloches.

Some time during this period—preferably just before Christmas—two or three weeks should be devoted to repairing and cleaning equipment—garden tools, bee-

keeping equipment, etc. It is very important to do this at this season of the year, when there is little to be done outside. If you leave it until later it will clash with the outside activities of Spring, which will probably mean that it will not be done at all.

In the Orchard this is the time for winter pruning and spraying.

In early January you will close your accounts for the year and draw up your annual Balance Sheet—assuming that your financial year ends on 31st December. This will give your profit (not a loss it is to be hoped) for the year. This then is a good time to make a review of your affairs in general. Make your plan for the coming season and see where you can reduce expenses and increase profits and produce. All orders for seeds and new equipment should be placed. This ensures early deliveries and reduces office work during the more active part of the year.

Spring (February, March and April)

This is the small holders most important season. In fact the results for the whole year depend very largely on what he does in the Spring.

If he has employed the winter months properly, as I have suggested, his plans will be ready, his equipment in good order, his seeds purchased and his land ready for sowing.

In the Vegetable Garden the ground must be broken up, reduced to a good tilth and most of the seeds sown during this period.

During the first spell of good weather, in late March or April, the beehives can receive a quick inspection to see that all is well, and the colonies can be stimulated by "Spring Feeding."

In the Orchard and Soft Fruit Plantation manure and fertilisers should be applied where necessary and Lime-sulphur spraying carried out.

If it is intended to rear ones own poultry this is the time for setting and hatching the eggs.

Spring is the time of initial activity in the greenhouse.

The seeds of plants which must be forced under glass—such as tomatoes, cucumbers, celery, melons, etc—are usually sown in March and the same applies to early crops of Lettuce, French Beans, Onions, etc.

The great thing at this Season is to work out a programme and stick to it. Once you get behind hand it is very difficult to catch up.

Summer (May, June and July)

Most of the seeds in the Vegetable Garden will have been sown by this time, but there will still be a few more to go in. The main activities will be the transplanting of seedlings—tomatoes, members of the cabbage family for Autumn and Winter use, leeks, etc., and the cultivation of the growing crops. Unless your ground is unusually clean much of the time will be occupied in hoeing to keep down weeds. Otherwise your time will be spent in the more pleasant occupation of gathering, and eating, the crops as they become available.

For the beekeeper this is *the* season of the year. On his judgement and skill in May and June depends the quantity of honey he will harvest in August or September. Towards the end of May one of the methods of swarm control will have to be instituted, additional brood bodies and supers will have to be added periodically to each colony and arrangement for requeening considered.

In the Orchard mid-May will be an anxious time. The blossom will be out and your ultimate crop will depend largely on the absence of frosts and gales. However, there is nothing much that you can do about either, except to take whatever evils may come philosophically and hope for the best.

Soft fruits—particularly strawberries, raspberries and currants will require protection against birds as the fruit approaches ripeness.

If you have reared any young poultry they will require special care and attention in the early weeks of their lives.

Autumn (August, September and October)

Except for spring cabbages, spinach-beet, and lettuce

and endive for the winter, there is little sowing or transplanting to be done in the vegetable garden. The main activities are to keep an eye on the green and other vegetables for winter use, to lift and store the main root crops—potatoes, onions, beetroot, etc.—and to clear and prepare vacant ground ready for the following Spring.

In the Apiary the chief task is to harvest the surplus honey, requeen the hives (if not already done) carry out winter feeding and pack the hives down for winter.

The soft fruit plantation should be thoroughly overhauled. Any plants suspected of virus disease must be removed, the old wood of raspberry canes cut out and other fruits pruned as required.

In the Orchard the only duties will be to pick, pack and market (or store) the fruit, and to grease band all trees in September.

The poultry keeper should take steps to get rid of old and unprofitable birds, and make all necessary preparations for the young ones, bred in the Spring, which should come into lay in October.

Late October (or November) is of course, the time for planting most young fruit trees. New strawberry beds should be planted as early as runners are obtainable, and certainly not later than the middle of September.

There are not many seasons of the year which are really suitable for the agriculturalist to take a holiday : but everybody should have one at some time, and Autumn is probably the least inconvenient. There is not only your own holiday to be considered, but that of your man (assuming that you employ one regular worker). Obviously you should not both be away at the same time. Arrangements will, of course, vary, but the best holiday season from the point of view of the holding probably extends from the end of October (after the apple picking) until early January. This is, however, far from being the best time from the individuals' points of view, except for those who have a liking for winter sports or a stay in Southern climes ; but this form of holiday is not always feasible in these days of travel restrictions.

PART II

A brief introduction to the technical side of some of the activities suitable for a small holding or market garden—vegetables, orchard and soft fruits, poultry, beekeeping and other matters.

CHAPTER VI

VEGETABLES

I.

GENERAL

OWING to the difficulties of marketing perishable produce I do not recommend growing more vegetables than are required for household consumption, unless there are special reasons for doing so.

If, however, there *are* special reasons, or you have a fancy for market gardening, it is best to grow one or two crops commercially and the remainder for household use only. Care is required in selecting crops for sale. Some, such as lettuces, have to be picked at exactly the right time and marketed within a few hours. This is a rather troublesome business, and it is better to grow a crop, such as celery or a root crop, with which there is some latitude in gathering and which does not perish too quickly.

I must confess that I have found the production of first grade vegetables a somewhat difficult matter. This is partly due to my soil which is not very good; but mainly because it is a highly skilled occupation. The special requirements of each crop and variety, and local conditions, have to be studied and due allowance made for the vagaries of our climate. I have never succeeded in growing good carrots or onions. In 1946 my outdoor tomatoes were a complete failure, but in 1947, I had an enormous crop. In 1946 my peas, beans and lettuces were first rate; in 1947 they did not do at all well. Since becoming a cultivator my respect for the cottager and allotment holder, who produces all his family requirements in vegetables by spare time work in the evenings and at week-ends, has increased enormously.

The man who can cultivate a kitchen garden and say truthfully at the end of the season that all his crops have given a fair average yield, knows his job and has little to learn.

II.

SIZE AND CROPS TO BE GROWN

If, as I have recommended, you confine your main activities to growing vegetables for your own use, the size of your vegetable garden will depend mainly on the size of your family. Moreover, you will only produce the crops you require. If you do not like carrots or spinach you will not grow any.

The size will, of course, depend to some extent on the quality of your soil and your own skill as a cultivator. If you think that everything you plant will grow well your plot can be smaller than if the reverse is the case.

My own family consists of four persons and occasionally rises to six when we have guests. My kitchen garden is a narrow strip (a convenient shape for easy working) measuring seventy-five yards by six yards. The quality of the soil is not ideal, but I have found this plot is sufficient to meet all my household needs except main crop potatoes. If anything it is a bit "tight" and I would like it slightly bigger.

For an average family (say four with an occasional guest) 500 square yards is about right, and this will allow for a few paths between crops. If main crop potatoes are grown another seventy-five or 100 square yards or so will be required.

In general terms garden crops are divided into three categories :—

(a) *Permanent, or semi-permanent crops*

Those which once planted remain in the ground for over a year, in some cases many years.

Rhubarb

Asparagus.

Herbs—parsley, mint, etc.

- (b) *Crops sown in the early Spring or Summer* for consumption in the summer and autumn, or for storing for winter use.

Broad Beans (2)
 French Beans (2)
 Runner Beans (1)
 Peas (Dwarf variety for a small garden) (4)
 Early Potatoes (4)
 *Main Crop Potatoes (18)
 *Beet (3)
 *Carrots (3)
 *Shallots (4)
 *Onions (4)
 *Parsnips (4) } Stored in ground.
 *Jerusalem Artichokes (2) } Lift as required.
 Lettuce (5)
 Spinach Beet (2)
 Summer and Autumn Cabbage (4)
 Outdoor Tomatoes (1)
 Sweet Corn (2)
 Marrow } A patch about four yards
 Ridge Cucumbers } by six yards.

Note :—Those marked * are dug up in the autumn and stored. Parsnips and Jerusalem Artichokes are best left in the ground and lifted as required.

- (c) *Crops sown in late Spring or Summer*

For consumption in the winter and spring, before those in (b) mature. These consist mainly of the more hardy green vegetables.

Brussel Sprouts (4)
 Savoys (4)
 Broccoli (Purple Sprouting) (4)
 Curly Kale (4)
 Spring Cabbage (4)
 Leeks (6)
 Spinach Beet (2)
 Lettuce (2) (very difficult to produce in January or February even under cloches)

Endive (2)
Celery (1 double row).

Note :—Figures in brackets represent suggested number of rows assuming each row to be approximately eighteen feet long.

With minor variations from year to year these are the crops I grow in my own garden and they meet all the requirements of the household with a little to spare. They are the vegetables we like and they are mostly easy to grow. Those who have a fancy for cauliflowers, turnips, etc. will of course include them, and probably cut out some of those I have mentioned.

III.

SOWING, PLANTING AND CULTIVATION

Practically all vegetables are sown from seed (potatoes, artichokes and a few others being exceptions).

In some cases the seeds are sown in the crop's permanent position, and the plants thinned out in the early stages of growth to the required distance.

In many cases, however, the seed is sown in a seed bed and the plants transplanted to their permanent quarters later. With some vegetables, such as outdoor tomatoes, ridge cucumbers, sweet corn, celery, etc. it is necessary to start them under glass and transplant to the open later, when all risk of frost has passed.

With some plants the procedure is optional. French and Runner Beans and Lettuce seeds can either be sown in their permanent quarters or in a seed bed (or under glass) and transplanted later. Whatever procedure is adopted it is essential that the soil be got into the best possible condition before sowing or planting.

If you are starting on virgin soil (i.e. grassland) it must be dug two spits deep, the turf being placed at the bottom and chopped up. If properly dug, grassland does not normally require manuring for the first year and only lightly the second year. All digging is best



[*Photograph by GRAHAM NEWBERY, AXMINSTER (March 1948).*]

KITCHEN GARDEN

Vegetable garden. About 500 sq. yds. and suitable for a family of four or five persons. The garden is in the form of a long strip with concrete paths on either side, which makes for easy working. Note cloches with lettuces, early peas and radishes, and winter vegetables in middle distance ; also rabbit-proof fence on right and tool shed.

done in the Autumn and the ground left rough until the Spring.

If your vegetable garden is an established one it is probable that constant cropping has to some extent exhausted the ground and that an application of organic manure is desirable, if not essential, before starting operations.

Organic manure consists of animal manure or compost (rotted down vegetable matter), and it is essential to apply one of these every year to at least a portion of your vegetable garden. Many books and pamphlets written for amateur gardeners, and allotment holders, during the War gave the impression that all the organic manure necessary can be obtained from the garden itself by rotting down waste vegetable matter. It is my experience that the average plot does not produce nearly enough compost and that some outside source of organic manure is necessary if fertility is to be maintained. In my own vegetable garden (seventy-five yards by six yards) I use two loads of farmyard manure annually, in addition to compost—the latter being waste matter not only from the garden, but from adjoining land. Nevertheless a good compost heap is an essential part of a vegetable garden.

In recent years much has been made of the alleged magical qualities of artificial fertilisers. While there can be no doubt as to their advantages as stimulants to growth, they can never replace organic manure. "Artificial" merely provide the chemical requirements for plant growth, whereas organic manure provides humus in addition, and without humus plant life cannot thrive. In simple language organic manure provides the basis for the soil in which plants grow and artificial fertilisers provide a useful tonic during growth.

It will be found, however, that the various vegetables require different treatment as regards organic manure. Generally speaking it may be said that all green vegetables are gross feeders and require a lot; peas, beans and salads require rather less, and root crops—such as

parsnips and carrots—should not be grown on recently manured soil.

Many people think that frequent applications of lime are the cure for all evils. This is a mistake, although lime should always be applied to sour land before sowing or planting. Manure and lime should not be applied at the same time, as they tend to counteract each other.

The same type of crops should not be grown on the same ground each year, as different kinds of vegetables use up different ingredients in the soil. The usual practice is to divide the plot into three divisions :—

- A. Mainly for roots which do not require much manure.
- B. Mainly for vegetables of the cabbage variety, for winter use, which require a liberal supply of manure.
- C. Crops such as peas, beans, tomatoes, onions, lettuce etc., which are mostly sown in Spring and gathered by the Autumn, and which require a moderate amount of manure.

The three plots are changed round every year. All authorities have their own views on the rotation of vegetable crops, but one of the best cropping charts I have seen is that compiled by Charles WYSE-GARDNER and sold by The Chase Protected Cultivation Co., Ltd., Chertsey, Surrey—Price 1/-.

All crops grown in their early stages or permanently in seed boxes or pots should be planted in a carefully prepared compost. By far the best for this purpose are what are known as the “John Innes” composts, which have been evolved from years of research and proved suitable for almost all kinds of seedlings and plants grown in pots or boxes. Details of their composition are as follows :—

Name or No.	Purpose for which used	Parts by bulk			By weight per bushel of 28 lbs.		
		Sterilised Loam	Peat	Coarse Sand	Super-phosphate	Chalk or Ground Limestone	John Innes Base (See note below)
SOWING	For sowing seeds	2	1	1	1½ oz.	½ oz.	—
POTTING							
No. 1	1st potting, usually into "6's"	7	3	2	—	½ oz.	4 oz.
No. 2	2nd potting, for plants passing through or remaining in 4½" or 5" pots	7	3	2	—	1½ oz.	8 oz.
No. 3	Final potting, for any plants which go beyond a 6" pot (e.g. Tomatoes)	7	3	2	—	2½ oz.	12 oz.

Note :—The John Innes Base consists of (by weight) :—2 parts hoof and horn ($\frac{1}{4}$ " grist), 2 parts Superphosphate (16% phosphoric acid) and 1 part Sulphate or Muriate of Potash.

The foregoing paragraphs deal with the preparation of the soil before sowing or planting. It will now be as well to consider the treatment of plants during growth. Crops require regular attention, the main items in this connection being :—

(a) *Hoeing*

Most gardens produce a good crop of weeds and these must be kept down. Regular hoeing is essential. If you use a push cultivator (see Chapter II) make certain to sow the rows the correct distance apart, to suit the blades. Hoeing is one of the most monotonous jobs in gardening, but it *must* be done.

(b) *Transplanting and Thinning*

With a few crops—beans and peas for example—neither of these operations are necessary.

Some—such as lettuces—can be either sown in a seed bed, or box, and then transplanted, or sown in their permanent position and thinned later.

Others—including all the cabbage family—must be sown in a seed bed and transplanted.

(c) *Feeding*

Many crops benefit from an application of artificial fertiliser when about half way through their growth. Lettuces and all green vegetables are examples.

Permanent crops, such as rhubarb, should be well dressed with organic manure in the Autumn.

(d) *Measures against Pests and Disease*

Very few vegetables—leeks being among the few—are not subject to attacks by pests or disease. Slugs attack lettuces, blight attacks tomatoes and potatoes, most green vegetables are subject to attack by caterpillars—in fact many vegetables are liable to fall victim to a variety of pests and diseases. In nearly every case there is an insecticide, in liquid or powder form, to combat these onslaughts. It is worth investigating these very carefully as their timely use prevents much disappointment and loss. In 1947 in my district all vegetables of the cabbage variety were attacked by a plague of caterpillars of the Large and Small White Butterfly. I tried many insecticides to combat this, but found that most of them required very frequent application to be effective. Finally I used D.D.T. Spray (8%) made by NUTILIS Products Ltd., Kingston-on-Thames which I found only required applying once every three or four weeks and destroyed both adult caterpillars and eggs. Birds are often a trouble among seeds and seedlings. Wire netting guards, half circular in shape, are the best preventative; strands of cotton are another means, but are “fiddling” to fix and require constant attention. Mice often dig up pea, bean and other large seeds. Many proprietary mixtures for preventing this are sold, but I have found that seeds soaked for five minutes in paraffin before sowing are rarely touched by mice.

(e) *Watering*

In dry weather most crops benefit by artificial watering of the soil. Some, such as runner beans, are improved by watering the foliage. Watering should not be practised—except in a period of extreme drought to save a crop which would otherwise perish—unless it can be maintained regularly.

There is a golden rule for all watering. When you *do* water give plenty. A good soaking once a week is much better than a little daily dose.

IV.

GLASS

The use of glass as a protection for plants enables the vegetables grower to obtain earlier supplies of some vegetables and to grow others which could not be grown at all in the open.

There are three methods of providing glass protection :—

(a) *Cloches*

These are glass “tents” which when put close together on the ground give protection to a row of seedlings.

There are two patterns—“tent” consisting of two sheets of glass thus $\wedge$ and “barn” consisting of four sheets thus ∇ . The former accommodate one or two rows of small seedlings and the latter two or three rows of small or one of large—such as French beans. The cloches are held together by metal frames or holders. I have tried many types and found none better than my original ones, supplied by the The Chase Protected Cultivation Co., Ltd., Chertsey, Surrey.

Cloches enable one to produce crops, such as lettuces, peas and French beans, much earlier than is possible without protection. Those who wish to go in for this form of gardening should write to The Chase Protected Cultivation Co., Ltd., for a list of their books, pamphlets and cropping chart, which are obtainable at very small cost.

Cloches are certainly worth trying, especially by those without a greenhouse. They do not perform miracles, but they *do* enable one to produce much earlier, and later, crops of certain vegetables. They

are particularly useful for extending the period in which lettuces are normally available.

(b) *Frames*

The well known "cucumber frame" is a useful addition to any garden. It has the advantage over cloches in that heat can be supplied by placing it over a hot bed of manure.

It is particularly useful for cucumbers and for early seedlings.

(c) *Greenhouses*

In these days a greenhouse is an expensive item to erect, but the possession of one is a very great advantage. Even if unheated it is invaluable for growing seedlings and semi-tropical vegetables such as tomatoes and cucumbers. It can also be used for starting those like sweet corn, marrows, French and runner beans, etc., which can be transplanted to the open later.

If heat can be applied a variety of vegetables—such as melons, the choicer varieties of tomato, etc.—can be grown, and others grown at seasons of the year which are impossible out of doors or in a cold greenhouse.

It is quite feasible to maintain a continuous supply of good vegetables throughout the year without any form of glass protection; but for those who have a liking for things a week or two earlier, or for some of the choicer kinds, glass—in one form or another—is essential.

No other form of glass can quite take the place of a greenhouse, but while controls and present high prices remain it is not advisable to erect one, except perhaps for commercial purposes. The small holder, growing vegetables mainly for family consumption, will find a frame or cloches very good, and much cheaper, substitutes.

In cloche gardening the seeds are of course, sown in the ground and the cloches placed over them. If a greenhouse or frame are used, however, some

form of receptacle for the seeds is necessary. For most seeds a seed box measuring 14" long, 9" wide and 3" deep is suitable, but one or two measuring about 20" x 14" x 7" for larger seeds, such as beans and sweet corn (both of which in my experience are best started in this manner), are necessary. Seed boxes are easily made from salvaged wood, which can usually be purchased locally without a permit.

The seeds of a few vegetables—tomatoes, marrows, cucumbers, etc.—do well when planted singly in small pots, the plants being transferred to larger ones, or the open ground, later.

The number of seed boxes and flower pots required will vary with circumstances ; but for a small greenhouse twelve to eighteen seed boxes and about eighty pots (mostly small and medium sizes) will be sufficient. The nomenclature of the various sizes of pot is somewhat confusing to the novice and they are difficult to remember. The following is a complete list :—

Term used to describe pots				Diam.	Depth
Thimble	..	..	..	2"	2"
Thumb	..	..	..	2½"	2½"
Sixties	..	..	..	3"	3½"
Forty-eights	..	..	..	4½"	5"
Thirty-twos	..	..	..	6"	6"
Twenty-fours	..	..	..	8½"	8"
Sixteens	..	..	..	9½"	9"
Twelves	..	..	..	11½"	10"
Eights	..	..	..	12"	11"
Sixes	..	..	..	13"	12"
Fours	..	..	..	15"	13"
Twos	..	..	..	18"	14"

V.

STORING

Some vegetables—mostly roots—are gathered in the Autumn and stored for Winter use.

Main crop potatoes are best stored in a clamp out of doors ; but unless the quantity is considerable this method is just not worth the trouble. If thoroughly dried and only sound potatoes included, they keep quite well in sacks in a dry place.

Beetroot and carrots can be stored in boxes of dry sand ; but the best method I have discovered is to cover them with fine ashes. The ashes from an *Essè* or *Aga Cooker* are particularly suitable.

Onions can either be tied up in “ropes” or spread out on trays, the latter method also being suitable for Shallots.

Parsnips and Jerusalem artichokes can be left in the ground for the whole winter and dug up as required. Parsnips also store well if merely piled up in a heap and left in the open on a well drained piece of ground. The disadvantage of storing in the ground is that in a period of heavy frost the roots are inaccessible.

Vegetable marrows can be cut and stored in-doors for several weeks.

If tomatoes are picked green, or when just turning red, batches can be brought to a condition of ripeness in succession by varying the temperature in which they are kept. Those kept in a cool place will not ripen for some weeks—those kept in a warm place, such as an airing cupboard, only taking a few days. They should be inspected frequently as a few nearly always go rotten.

VI.

CONCLUSION

I commenced this Chapter by pointing out that vegetable gardening is a difficult undertaking. Even the professional market gardener has his failures—often

more than he is willing to admit. The amateur will have many, but after a few years experience he will get to know the peculiarities of his soil and district and should be able to make it a point of honour never to have to purchase vegetables for his household.

No attempt has been made in this Chapter to give details for the cultivation of the various types of vegetable but by following the procedure in one of the books or pamphlets listed in Appendix A—most of which are cheap—combined with a little intelligence, reasonably good results can be achieved even by a novice.

CHAPTER VII

ORCHARD FRUIT

I.

GENERAL

FOR commercial purposes orchard fruit usually means apples, pears and plums, and under ordinary circumstances the small holder is advised to confine his activities to these fruits—especially the production of high grade dessert apples.

In favourable localities cherries may be a good proposition, but they are subject to the ravages of birds and netting is not practical except in the case of a few trees grown on a wall.

In Chapter I. I have pointed out that the first priority is to supply the owners household with as much of its food requirements as possible. Except in the case of the very smallest holding there should however, be some surplus for sale. It is desirable that this be so to pay for labour and other expenses and show a cash profit.

Unless the circumstances are exceptional I strongly recommend that the lay out of the holding be such that this surplus, over and above household requirements, be from orchard fruit and mainly from high class apples.

There are several reasons for this. The cultivation of apples is a pleasant occupation and does not involve heavy manual labour. There is always a good demand if the produce is of high quality. Most apples store well for several weeks and this makes marketing a less irksome business than is the case with produce which perishes quickly. Moreover, apple production is not very difficult. It requires care and routine attention, but is not beyond the capacity of any intelligent person who

has given the subject some study and who obtains good advice—from say the County Horticultural Officer.

By far the best book I have come across on this subject (and which includes soft fruit growing) is “Fruit Growing” by N. B. Bagenal. It is expensive, but well worth the money. Other books, less expensive, are given in Appendix B.

II.

ESTABLISHED ORCHARDS

It may be that your property includes an acreage of established fruit trees, perhaps in a neglected condition. In that event you will have to make an early decision as to whether the trees are worth keeping or not. If the process of neglect has gone too far and the trees are old, diseased and pest ridden, it may be best to fell them all. The loss will not be a total one as the timber can be cut up for logs and sold. On the other hand the roots will have to be dug up before the ground can be replanted and this may be very costly in labour.

It is, however, often possible to renovate old trees by drastic pruning, spraying, cutting out canker, etc. Two old orchards on my own property have been treated in this way. They are still by no means first class, but they have been very greatly improved and now bear a useful crop of fruit.

This is really a matter for an expert and the advice of the County Horticultural Officer should be sought. He will give you a good idea of the pros and cons, which will enable you to reach a decision.

III.

PLANTING AN ORCHARD

Fruit trees are never grown on their own root stocks, but are grafted on to a stock of some other variety of proved worth. This enables the specialist nursery-men, who produce fruit trees for sale, to control the

ultimate size of the tree, its rate of growth and other matters.

Trees are grown in various forms—the most common being :—

(a) *Standard Trees (and half standards)*

Trees which grow to a considerable size and require a ladder for picking and pruning and a power sprayer.

(b) *Bush Trees*

These do not grow higher than about nine feet. They can be picked and pruned from ground level, and easily sprayed with a small hand operated sprayer.

(c) *Cordons or Fan Trees* which are trained to grow against a wall or fence, and possess the same advantages as Bush Trees.

Of these, Standards give the highest yield of fruit, but they take a long time to come into bearing and the middle aged fruit grower who plants them will probably never see his trees in full production. They are the most difficult to pick, prune and spray.

Cordons and fan trees probably produce the highest grade fruit, but unless you have ample wall space fencing will have to be erected and this is costly.

In cold localities—particularly in parts of Scotland—cordons or fan trees grown against a wall are the only means of getting consistently good results. Trees planted in the open in these districts too frequently suffer from the effects of late spring frosts.

Bush trees come into bearing in a few years and are easy to pick, prune and spray. The yield per tree is, of course, not nearly so heavy as with standards, but many more trees can be planted to the acre. Planted fourteen to fifteen feet apart they work out at about 200 to the acre. Another advantage is that bush trees suffer less from gale damage than larger trees and fallen fruit suffers less damage.

I have come to the conclusion that in an average

locality the small man, who proposes to plant anything more than a few trees for his household requirements, would be well advised to plant bush trees—in the case of apples on one of the three Malling rootstocks, i.e. Malling Nos. I or II (medium sized dwarf) or Malling No. IX. (very small).

In 1945 I planted an Apple Orchard of sixty dwarf trees and although the site is by no means ideal the trees have done well and the small amount of fruit produced up to date (1947) has been of very high quality. It gives promise of being very successful. As will be seen from the analysis of costs and probable profits given later, an orchard of this type is a very good investment.

We will now consider in greater detail how to set about planting an orchard.

Assuming that a site has been selected, the first thing to decide is the variety of fruit to be planted. This will depend on the soil, and other local conditions, and here again the advice of the County Horticultural Officer should be sought. The preliminary investigations should include such matters as :—

- (a) Depth of soil and its composition. It may be desirable to have the soil analysed.
- (b) The question of pollination. Some varieties are self pollinating, others partly so and others self sterile. The two last require another suitable variety to pollinate them.
- (c) *Fencing*. Rabbits can do a lot of damage to young trees, and unless your district is completely free of these pests small mesh wire netting fencing (not less than three feet high) is necessary. This in my opinion is better than applying one of the proprietary rabbit repellants to the trees. These mixtures have to be renewed frequently and are not entirely satisfactory. Fencing can be removed when the trees approach maturity, as rabbits only attack young trees. It is, of course, feasible to put wire netting round each tree separately,

instead of a fence round the whole orchard. This method has many disadvantages, however. It adds to the difficulties of grass cutting and cultivation round the trees and in my experience these little "fences" require constant repair and attention.

- (d) The provision of such adjuncts as stakes and an outhouse. Each tree will require a stake, which can be removed when the tree is five or six years old. If the orchard is a large one—say more than two acres—a simple shed will be required for storing tools and for sorting the fruit after picking. Incidentally permission from the Local Authorities is necessary prior to the erection of any outhouse, but usually this is not difficult to obtain if it is connected with food production.

Having considered these matters and discussed them with the County Advisor the next step is to order the trees and prepare for their reception. Go to a really reliable Nurseryman with a good reputation. Never buy trees from any but the very best firms. Planting should take place in November and the fencing must be erected, the holes dug and the stakes prepared before the trees arrive. If the proposed Orchard is a big one do not have all the trees sent on the same day. Have them delivered in batches of 50 at intervals of say three or four days. If you have 200 or 300 sent at once the last will not be planted for several days and will deteriorate.

The cost—excluding the price of the land—of planting a one acre orchard on the lines I have indicated will be approximately as follows :—

200 bush trees @ 12/6d. each	..	£125	0	0
200 stakes and binding @ 6d. each	..	5	0	0
280 yards fencing @ 2/- per yard, say		30	0	0
Labour		33	0	0
Sundries		2	0	0
		£195	0	0

If more than one acre is planted the fencing costs will be proportionately less, but £200 per acre is a safe rough guide.

Fancy prices, sometimes as high as 25/- or 30/- per tree, are often asked. I can only say that the price quoted (12/6d. each) is the price charged for two or three year old bush apple trees by a well known and thoroughly reliable Nurseryman in my own district. For some varieties the charge is 10-6d. each.

It is very difficult to estimate the profit per acre from an orchard of this type. Some soils and localities give consistently high yields of good fruit. Other localities will be less productive. In any case profits can only be judged on the average of a number of years, and much will depend on the skill of the owner. I think, however, that a fair estimate when the trees have reached maturity is £1 worth of fruit per tree per annum. This should be nearly all profit as with a little trouble it is possible to gather at least one ton of hay per acre of orchard and this should go a long way towards paying for the labour (other than your own) of making the hay, and spraying, pruning, picking, grading and marketing the fruit.

It is essential to keep down the grass in an orchard and the only method is cutting. Stock cannot be grazed among bush trees. As you *have* to cut the grass you may as well take a little more trouble and make it into hay. Early in the season, before the hay is cut, the grass must be kept down for a distance of about one yard round each tree.

Even if the profit is only 10/- per tree this is a very good return on the capital outlay—which with land at say about £50 per acre—only amounts to a total of about £250 per acre. Moreover, the capital appreciation is considerable. An orchard costing £250 will, in a few years when the trees have reached maturity, be worth at least £500 and possibly a great deal more.

Some authorities recommend growing soft fruit or vegetables in between the rows of trees. If space is very limited this may be a good plan, but on the whole I do not recommend it. When fully grown the trees shut out

the light from the other crops, and in some cases these may be damaged by the spray applied to the fruit trees.

An orchard is an excellent place for beehives; and of course the bees are invaluable as pollinating agents.

IV.

ROUTINE WORK

Renovating an established orchard which has been neglected may involve a lot of work, and planting a new orchard also means heavy labour.

Once either of these operations have been done, however, orchard trees do not require a great deal of attention. The work is largely routine, but it must be done thoroughly and at the proper time. The comparatively small amount of labour involved, and the fact that it is mostly light work where bush trees are concerned, is my reason for recommending the production of orchard fruit as the main item on a small holding.

The seasonal operations are :—

Pruning :—

Winter pruning is an essential operation in orchard fruit culture.

Summer pruning is practiced by some growers; but its objects and merits are highly controversial, and the novice is not advised to practice it without expert advice. Many successful commercial fruit farmers confine themselves to winter pruning.

The different kinds of orchard fruit—apples, pears, plums and cherries—each require different treatment and even the pruning of different varieties of the same fruit is not the same. Moreover, experts differ in their methods. It is therefore, not easy to advise the beginner, who should either get the help of an experienced man or make the attempt on his own after reading some good book on the subject (see Appendix B).

There are, however, certain principles applicable to all winter pruning—namely :—



[*Photograph by GRAHAM NEWBERY, AXMINSTER (March 1948)*].

APPLE ORCHARD

Apple trees on dwarf stock. A small orchard which has been very carefully planted and looked after. The trees are seven to ten feet high and in full bearing. Note the excellent shape of the trees, due to proper pruning when young.

- (a) Severe pruning results in the growth of wood, in the form of side shoots, and retards fruit production. Conversely light pruning lessens the amount of wood growth and increases the fruit yield.
- (b) The main object in pruning young fruit trees is to get them the right shape. Therefore, for the first year or two pruning should be fairly drastic.
- (c) With old trees, and those approaching maturity, the main object is to produce fruit. Therefore, the winter pruning should not go beyond cutting out dead wood and keeping the trees a good shape—bearing in mind that the centre of the tree should be open to air and light.

With these principles in mind, a little instruction from an expert and some knowledge of the special requirements of each kind and variety of tree, there should be little difficulty in making a reasonably good job of winter pruning.

The operation should be performed round about Christmas and the New Year, when the trees are in their most dormant condition.

Experienced nurserymen usually use a pruning knife for young trees, but most novices will do better with a good pair of Secateurs. For older trees a pruning saw will be required.

Spraying

The object of spraying is to destroy insect pests in all their stages of life and the spores of disease.

In order to destroy all known pests and disease spores more than one spraying is considered necessary. In the case of apples as many as five are recommended, the first in mid-winter, a second in early April, a third in late April or early May, a fourth in late May and the fifth in mid-June.

In recent years, however, a great deal of research work has been carried out with the object of providing a spray which will deal with a greater number of pests and diseases—the aim being to reduce spraying to one operation per year.

In the winter of 1946-47 I used a D.N.C. (Dinitro-Cresol) Winter Wash on some apple and pear trees, and sprayed again with a $2\frac{1}{2}$ per cent. Lime-sulphur mixture in April. No other sprays were applied to these particular trees. The result with the apple trees was entirely satisfactory and they produced good clean fruit of exceptional quality. Other apple trees, treated differently, were definitely inferior. A few of the pear trees suffered from scab, but it was very slight. I would not, however, even consider this as conclusive evidence that this, or any other form of single or dual spraying is 100 per cent. efficient in all districts every year. 1947 may have been an exceptional year in my district, and I have learnt that in these matters the experience of one year, or even two or three years, is insufficient.

The fact is that pests and disease vary in different districts, and from year to year, and no rules are applicable to all localities. The spraying of bush trees is not a difficult operation, and until experience is gained too much spraying is better than too little. Experiment over a number of years with different forms of spray on different batches of trees is recommended—until such time as the Research Workers produce a proved “one spraying a year” mixture.

There is another form of spraying which although not yet a common practice may become so in a few years. This is known as Hormone Spraying and its main objects is to prevent fruit dropping from the tree before it is ripe. It is still in the experimental stage, but some remarkable results in this direction have been claimed. Its possibilities are discussed fully in a little book called “Harnessing the Hormone” by T. Swarbrick, M.A., PH.D. If you are troubled with fruit dropping prematurely this form of spray is well worth a trial.

In October the wingless females of the Winter Moths often climb up the trunks of fruit trees and lay their eggs on the branches. The resultant caterpillars play havoc with the trees the following summer. This can be prevented by putting grease bands around the trees in September or early October.

Cultivation

Until they are five or six years old and become well established the ground round young trees should be kept free of weeds and grass. The "bed" round each tree should extend to about the area overhung by its branches.

The grass can be allowed to grow round established trees, but it should be kept short for a distance of two or three feet from the trunk.

One cannot dogmatise on the question of applying organic manure and artificial fertilisers to fruit trees. This depends on the soil, kind of tree and its age. It is probable that much more "feeding" than is generally practiced would be beneficial, but on the other hand the injudicious application of manure and fertilisers is harmful. If in doubt—and you almost certainly will be, as this is a rather tricky matter—consult the County Horticultural Officer.

In dry localities great benefit is derived from a mulch of cut grass, or lawn mowings, placed round the trees in the summer.

Picking and Grading

In some parts of the country orchard fruit crops are often sold on the tree to a dealer, who picks the fruit and takes it away. This makes things very easy for the producer, but he will lose a good deal of his profit if he "markets" in this manner.

There is a proper time for picking all fruit, and some experience and judgement is necessary to know when the time has arrived. In the case of apples the best test is to place the hand gently under the fruit and raise it upwards. If it comes away fairly easily it is ripe.

After picking, fruit is graded for size and condition. Small apples and those badly blemished are put into sacks for cider.

The method of marketing varies, and is considered in greater detail in Chapter IV. Apples which are good keepers can be stored and sold later when a better price may be made.

Expensive cold storage chambers and gas stores, used by big commercial firms, are beyond the scope of this book. Opinions on the method of storage for those without special apparatus have changed in recent years. Large quantities are best stored in boxes (such as tea chests) and kept as air tight as possible. The Carbon Dioxide gas given off by the apples preserves them, and prevents any that do happen to go bad contaminating others. The same principle is involved when apples are carefully wrapped in paper, the paper retaining the gas. I have found that apples keep excellently on trays with wire netting bottoms, and as a result of experiment for three successive years I have come to the conclusion that those wrapped in the special oiled tissue paper wraps, sold for the purpose, keep four or five weeks longer than unwrapped ones; and about two weeks longer than those wrapped in newspaper. This method is probably the most convenient one for storing a few hundred for household use; but storage in boxes is recommended for large quantities, as it is far less trouble. Whatever system is adopted it is essential that only perfectly sound ripe fruit be stored, and that it be handled carefully.

The small and imperfect apples, relegated for sale as cider apples, should be placed in heaps under the trees. It is best to protect them from rabbits and birds by putting wire netting round and over them, but this is a troublesome business and is not essential. They should not be put into sacks until a few days before despatch to the cider manufacturers. Cider makers demand apples of reasonable quality and in ripe condition, but are not generally fussy about size or slight blemishes, and do not normally object to the sacks containing a number of different sorts.

This roughly is the fruit growers year, and apart from keeping the fencing in order and the stakes of young trees in a state of repair, is all that is necessary. The work is not heavy, but the two essentials to successful cultivation—pruning and spraying—must be done thoroughly and at the right time.



[Photograph by GRAHAM NEWBERRY, AXMINSTER (March 1948)].

ORCHARD OF YOUNG TREES

Part of an Apple Orchard of young trees (planted in November 1945). The varieties are Laxtons Superb and Allington Pippin on dwarf stocks. Note distance between trees (fifteen feet), sloping stakes for each tree, rabbit-proof fence and bee hives.

V.

CONCLUSION

I must repeat that this Chapter is only an introduction to orchard fruit growing. I have made no attempt to describe the various operations in detail, but I have tried to indicate the principles involved and to show how further information is best obtained.

The kind of fruit you grow will depend on the district. In my own apples do well, pears moderately well and plums are usually a failure. Where conditions are favourable I would recommend apples for the main crop.

Similarly, I have not recommended any particular varieties of fruit, but provided they have a good reputation locally it is best to go for the choicest sorts such as :

Apples	*Coxs Orange Pippen (dessert)
	Laxtons Superb (dessert)
	*Blenheim Orange (dessert)
	*Bramley Seedling (cooker)
Pears	Conference
	William (Bon Chretien)
Plums	Victoria

*Note :—** Indicates that the Variety is self sterile and requires another variety, grown in close proximity, as a pollinator. The selection of a suitable pollinator requires careful consideration.

These are a few of the best varieties, but there are many others which are particularly suitable for certain districts.

I have not dealt with the less common fruits such as peaches and nectarines, which can only be grown successfully in the open against a wall and in mild districts. A few trees may be planted in the garden to meet household requirements, but they are hardly a commercial proposition in Great Britain, and of little value to the National effort to produce more food.

Those who like a country life, and are in search of an interesting and not unprofitable occupation, would do well to consider orchard fruit growing—the production of high grade apples in particular.

CHAPTER VIII

SOFT FRUITS

I.

GENERAL

SOFT fruits include strawberries, gooseberries, black, red and white currants, raspberries, loganberries, blackberries and various hybrid berries of the raspberry and blackberry types.

Generally speaking it may be said that soft fruits do well in all parts of Great Britain as far as climate is concerned, but are more particular as regards soil than orchard fruits. Before embarking on extensive planting it is wise to make investigations as to the suitability of the soil.

Given favourable conditions, however, soft fruit growing on a commercial scale can be a very profitable undertaking. Unlike orchard fruit, however, daily picking over a considerable period is necessary with most varieties, and the produce, being highly perishable, must be marketed at once. They are definitely more troublesome to pick and market than orchard fruits. In the case of many individuals for whom this book is written this will be a distinct disadvantage.

No holding can be considered complete, however, without a small soft fruit plantation to meet household requirements—including jam making and bottling.

Most soft fruits have certain characteristics in common. With the exception of strawberries, they all take two, three or four years to become established and give maximum results. They are mostly subject to the ravages of birds and require protection during the fruiting season. Many of them are highly susceptible to disease, particularly the group known as virus diseases,

which are as yet imperfectly understood. All soft fruits can be made into jam and most bottle well. They all like lavish supplies of organic manure.

Probably the best method of protecting the fruit against birds is to construct a fruit cage, although this is not a practical method in the case of large commercial plantations. For the requirements of an average household a cage about thirty yards by ten yards is sufficient, and one considerably smaller may meet the case. The posts can be of wood, or preferably metal, with small mesh wire netting at the sides. The roof is best left open, except during the fruiting season, when it is covered with a net. A door at each end is advisable. Another method is to erect a frame of iron posts and cross pieces and put netting over and round them during the fruiting season.

Strawberries can, of course, be included in the cage, but this is rather a waste of space for such a small plant. A better plan is to cover the rows with narrow nets, supported by metal or wooden uprights about two and a half feet high. Care should be taken to leave plenty of paths between rows and to exercise some ingenuity to make the nets easily removable and the fruit readily accessible. If these precautions are not taken picking becomes a rather tedious business.

Those wishing to study soft fruit culture in detail cannot do better than read "Fruit Growing" by N. B. Bagenal (which also deals with Orchard Fruit).

II.

STRAWBERRIES

Generally speaking strawberries are not difficult to grow, provided the beds are kept clear of virus disease, and a little care is exercised.

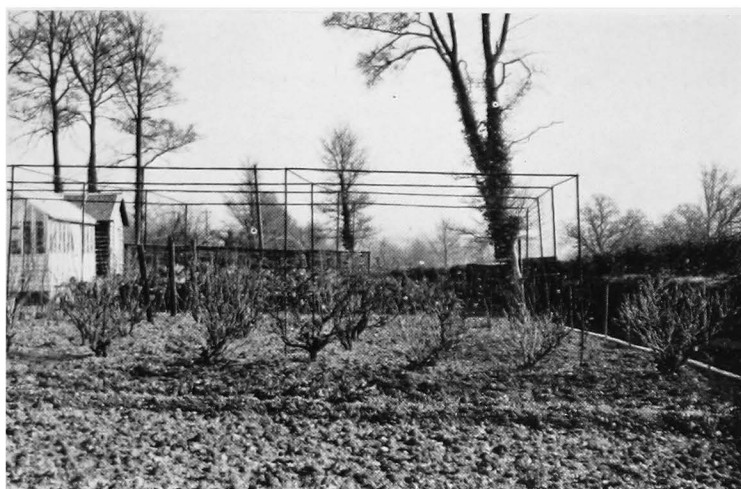
Planting should take place as early in the year as runners are obtainable, in order to get them well established before the winter. In an average year it should be possible to plant in August, and in any case it should

not be later than the second or third week in September. Always purchase from a really reputable nurseryman.

The ideal arrangement is for the bed to consist of four plots (which we will call A, B, C and D), bearing in mind that after fruiting for three years, or at the most four, plants should be renewed. Plots A and B are planted the first year, C the second and D the third. The fourth year, i.e. immediately after the plants in A and B have fruited for the third time—these two plots are dug up and the plants destroyed. B is replanted, as soon as the ground can be got into condition and runners obtained, and A is left vacant. Thereafter the plot with the oldest plants is dug up annually and the vacant plot replanted about the same time. By this method one always has three plots in production (with one, two and three year plants respectively) and one vacant. The system can be worked with three plots; but it is an advantage to have the vacant one, as this gives ample opportunity for thorough digging and manuring, both being essential for successful strawberry culture. If necessary this vacant plot can be sown with some quick growing crop—such as early potatoes.

The choice of varieties is a matter for careful consideration. Royal Sovereign is probably the best flavoured, but is very subject to virus disease. The strain of this variety known as “Malling No. 40” is reputed to be more resistant to disease than most, and has a high reputation in other respects. Details can be obtained from the East Malling Research Station, Kent.

The variety Huxley is a very heavy cropper; but the fruit is of poor flavour, although very suitable for jam making. This variety, is, however, a symptomless carrier of virus disease and for this reason must *never* be planted with another variety. I know, from personal experience, the results of neglecting this rule. In my first year I planted Huxley and Royal Sovereign together and many of the latter succumbed to virus disease, although the Huxleys appeared to be perfectly healthy.



[*Photograph by GRAHAM NEWBERRY, AXMINSTER (March 1948).*]

SOFT FRUIT CAGE

Small plantation of soft fruit, with framework of iron cage. In the summer months a net is placed over the ironwork to prevent birds damaging the fruit. An excellent form of cage—inexpensive, lasting and easy to erect and move with unskilled labour.

Most varieties of strawberry are self fertile, but a few—such as Tardive de Leopold—are self sterile and must be planted with another suitable variety.

There is another kind of strawberry which I have grown for many years and which I hold in high esteem. These are Alpine Strawberries—the variety Baron Solemacher. Although the berries are small, the largest about the size of an acorn, the crop per plant is heavy and they fruit continuously from May to November. The flavour is excellent. They do not throw out runners and increase is obtained by digging up one year, or older, plants and dividing up the roots. A well matured plant can be divided to make as many as six new ones. They can be planted at any season of the year, except during a period of frost. Baron Solemacher is obtainable from Messrs. Clarence Elliott Ltd., Six Hills Nursery, Stevenage, Herts., and this firm also supply written instructions on their cultivation. 250 plants of this variety will provide a daily supply of strawberries for an average family from May to the end of October. If only two or three dozen plants are purchased initially there is no difficulty in increasing (by division of the roots) to this number in two or three years.

If strawberries are required for household use only, and if after trial you like Baron Solemacher, it is suggested that these Alpines be grown for dessert purposes and Huxley for jam. Although the former appear to be completely resistant to virus disease, it would be unwise to plant Huxley in close proximity.

III.

GOOSEBERRIES

Gooseberries are not difficult to grow, being less subject to disease than most soft fruits and also less attractive to birds. It is three or four years after planting, however, before the bushes commence producing worth-while crops.

If it is desired to grow soft fruit in an orchard, between

rows of apples or pears, gooseberries are probably the most suitable—although (as explained in Chapter VII) I am not greatly in favour of this method.

There are three distinct types of gooseberries grown:—

- (a) *Early Gooseberries*, picked very young at the beginning of the season. Generally speaking this kind can only be grown in the South-West of England and other warm districts.

Varieties—May Duke, Keepsake.

- (b) *Main Crop Gooseberries*, also picked fairly early for cooking and preserving.

Varieties—Careless, Whinham's Industry.

- (c) *Dessert Gooseberries*, which are picked later and are more difficult to produce than the two other kinds.

Varieties—Leveller, Lord Derby, Leader, Gunner.

Gooseberries are almost invariably grown on a stem in bush form, the distance between bushes being about five and a half feet.

Propagation is by means of cuttings. Straight, well ripened shoots about twelve inches long are inserted in the ground in early Autumn, leaving four buds at the top. If they do well they can be transplanted to their permanent quarters the following Autumn.

Pruning in the early stages consists of getting the bush to the proper shape, and later in cutting out dead wood, cross branches and soft upright shoots called "risers."

IV.

CURRENTS

Apart from the colour of the berries there is no difference between red and white currants, but red are more usually cultivated. Both are grown on a stem as a bush.

Black currants are quite different. The berries and general appearance of the bush is not the same. They

are not grown on a stem, each cane coming direct from the root below ground.

Black currants are propagated by taking cuttings about twelve inches long in the Autumn, *all buds being left on*. The procedure with red and white currants is the same, except that all buds, except four, should be removed—in order to form a stem.

In pruning in the early stages the object is to get properly shaped bushes. Later, black currants only require the older canes cutting out. Red and white currants when fully developed should have their main branches cut back to an outside bud, leaving six or eight inches of the currant growth each year.

Currant bushes should be planted about five feet apart in their permanent quarters.

Varieties

Red Currants

Laxton's No. 1 (probably the best, and strongly recommended).

Earliest of Fourlands.

Fay's Prolific.

Laxton's Perfection.

Black Currants

Boskoop Giant (strongly recommended).

Seabrook's Black.

Baldwin.

Carter's Champion.

There is an almost endless list of other varieties, but the above are some of the most common and of proved worth.

Currants are somewhat prone to pests and disease. Black currants are particularly susceptible to "Reversion" and "Big Bud." It is most important not to propagate from stock infected with "Reversion," as the disease is incurable and will be passed on to the new bushes.

The details of diagnosis, and the control of disease and pests, are beyond the scope of this book, but the information is contained in most technical books on soft fruit (see Appendix B).

V.

RASPBERRIES, LOGANBERRIES, BLACKBERRIES AND
HYBRID BERRIES

This group of soft fruits all have very similar habits.

For most people raspberries are the most important, and in a suitable locality commercial raspberry growing is very profitable. As with strawberries successful culture depends to a large degree on the control of virus disease.

In spite of the liability to virus disease "Lloyd George" is probably the best variety to grow. It can be cultivated for summer fruiting or autumn fruiting. In the latter case the canes are cut down in the Spring and the fruit is produced on canes of the current seasons growth.

Other good varieties (not suitable for Autumn culture) are :—

Norfolk Giant (a very good variety, less susceptible to virus disease than Lloyd George).

Pyne's Imperial.

Pyne's Royal.

New raspberry canes should always be purchased from a thoroughly reliable nurseryman. Very careful planting is essential, as if they are planted too deep the results are not satisfactory.

Loganberries, in my experience, are much easier to grow, and less prone to disease, than raspberries. For those who like them, and are only growing for household consumption, they may be grown in preference to raspberries.

Cultivated blackberries—such as the varieties Himalaya Giant, Bedford Giant and John Innes—produce very large berries ; but it is doubtful if their flavour is better, or even as good, as that of the wild kind. Blackberry culture is hardly a commercial proposition and in country districts, where the wild sorts grow in profusion, they are not worth cultivating for domestic use.

Many varieties of Hybrid berries exist—the Newberry, Phenomenal Berry, Laxtonberry, Veitchberry and others

Although I have no experience of any of them, I have never heard that hybrids possess any outstanding qualities.

All fruits in the raspberry, loganberry, blackberry group—require support during growth—in the form of a single three or four strand wire fence, or a double two strand fence. In the latter type, which is very suitable for the small scale cultivation of raspberries, there are four wires, two about eighteen inches above the ground and one foot apart and another two about four feet above the ground and one foot apart. The canes grow up in between the supporting wires and tying is not necessary.

All these fruits should be grown on ground which has been liberally manured before planting, and an annual dressing of organic manure should be given.

CHAPTER IX

POULTRY

I.

GENERAL

THE restrictions on commercial poultry keeping at the present time (November 1947) make it very difficult to start a new poultry farm. Unless conditions are exceptional the issue of permits to purchase feeding stuffs on a large scale are confined to those already engaged in the business. In any case the present prices for stock birds, poultry houses and other equipment, make the capital expenditure very heavy. Until conditions are more favourable the small holder is not advised to go in for commercial egg, or table poultry, production.

It is, however, well worth while keeping a few birds to provide eggs for household use. By surrendering the family egg ration an equivalent number of balancer meal rations can be obtained ; and this, together with kitchen scraps and garden waste, can usually be made to support twice the number of chickens or ducks. The advantages are obvious. A family of four with eight good laying birds should get at least 1,400 eggs per annum, or approximately one each every day—which compares very favourably with the few dozen a year they would get if they purchased eggs.

For egg production the only kind of poultry worth considering are chickens and ducks, although a turkey or goose for eating at Christmas may be worth rearing.

If you have a large paddock or mature orchard (not young trees or they may be damaged) it pays to give poultry the free run of it. If given almost unlimited range they find a large proportion of their own food, and

under these conditions it is not impossible to keep up to twelve chickens on the balancer meal ration for four—plus kitchen and garden waste. They are, however, liable to attack by foxes, and if a hay crop is expected from the paddock or orchard it will suffer very considerably.

On some holdings it may be possible to provide sufficient “waste” in the form of chat potatoes, etc, or grow a special crop of sunflowers or maize to rear some poultry for the household table. If a special crop is grown for this purpose care must be taken to be on the right side of the law. Orders and regulations on this, and similar matters, change frequently and it is definitely not permissible to grow some crops, or sow an unlimited area, for feeding poultry. If you have any doubts consult the County War Agricultural Executive Committee.

II.

CHICKENS

There are several ways of starting to keep chickens—by the purchase of eggs, day old chicks or half grown or mature birds. If only a few, for home egg production, are required probably the best method is to buy Spring hatched pullets in June or July, which will commence to lay in October. The price will be a stiff one, but the risk should be small, as they will be well grown birds and have got over their childhood ailments.

If a larger quantity are required it will be cheaper to buy younger birds, but some losses may occur in rearing.

What ever your method of starting always purchase from an accredited breeder ; *never* from a friend or small scale amateur. Infectious and hereditary diseases are rampant among poultry and an inexperienced man may, quite unintentionally, supply you with diseased birds.

It does not pay to keep laying chickens for more than two years, as their egg production declines sharply in their third year. A bird hatched in March 1946 should be disposed of in the Autumn of 1948.

Houses are of varying patterns, the small moveable type, with two, three or four nest boxes being the best for a few birds.

For table birds, those known as "folding" houses are very suitable. They consist of a house and run in one piece, the latter having no bottom. The birds are confined in these and the houses moved to fresh ground every day or two. They are very convenient and are fox proof, but practically all food has to be provided, as the birds can only forage to a trifling extent. This is a great disadvantage under present conditions, and for this reason it may be best to give birds destined for the table free range until a week or two before they are required.

Several varieties are suitable for the purpose described, but probably there is none better than a good strain of Rhode Island Reds. In addition to being good layers, they are very fair table birds.

III.

DUCKS

Ducks have many advantages over chickens for egg production.

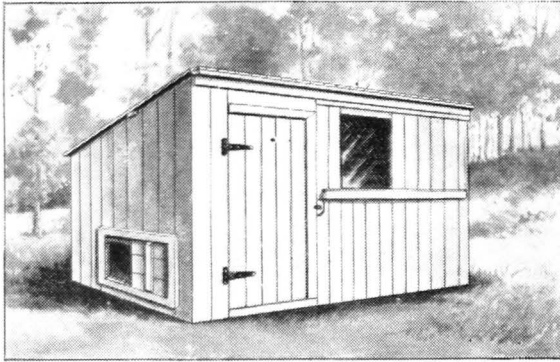
They lay a larger egg and more of them than chickens. Their useful life is three years instead of two. They are great foragers and in summer almost keep themselves if given free range. Moreover, they do not require such an elaborate house.

On the other hand some people do not like ducks eggs; their habit of night foraging makes them difficult to collect and lock up in the evening, and if they are not locked up they will probably be caught by a fox. Ducks eggs do not keep fresh as long as chickens and do not preserve well.

The ideal conditions for ducks is either a locality free from foxes or a large enclosure (really large—an acre or more) with a fox proof fence, and free of undergrowth in which they can lay their eggs. They need not then be

POULTRY HOUSES

(See Chapter IX and Appendix A.)



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- (a) A good type of house for a few laying hens, with outside nest boxes at rear or far side. This one measures six feet long, four feet wide and four feet high ; but can be made to any size not too heavy to move. Easy to construct from salvaged timber. Suitable for Ducks if perches and nest boxes are removed and other slight modifications made.



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- (b) A "folding" unit-house and run combined. Overall size :— sixteen feet long by six feet wide. Roosting compartment six feet by four feet. Easily moved to fresh ground daily. Suitable for fattening table birds. If fitted with nest boxes it can be used for laying hens ; but as the birds are unable to forage to any extent, all food has to be supplied, and it is not generally recommended for this purpose.

got in at night, and will probably lay in the duck house. These conditions will rarely exist, however, but if they *do* ducks are definitely a better proposition for egg production than chickens—always provided you like duck eggs.

The Duck house can be of the simplest kind, four walls, a floor, a roof and a door being the only essentials. Nest boxes are not required as they lay their eggs on the floor. If given completely free range they are apt to lay out in hedges and undergrowth, or even when swimming if a pond or river is available. This habit can be prevented by keeping them locked up until about 10 a.m. by which hour ninety-five per cent. will have laid their eggs.

These are the pros and cons of ducks as egg producers compared with chickens, and the reader can make his choice.

The best variety for egg production is the Khaki Cambell, but it is a poor table bird.

IV.

OTHER POULTRY

One or two Turkeys for Christmas may be worth while. They are difficult to rear when young, and if you can get them the best method is to buy three month old birds. The present restrictions in feedings stuffs make it very difficult to keep more than a few, but under favourable conditions a small breeding pen—for the sale of fertile eggs—is a paying proposition. Turkeys do not require a house, and if accessible trees are available they usually manage to keep out of the way of foxes at night.

Geese serve the same purpose as Turkeys, but are easier to rear, and are very good foragers. They require a similar type of house to ducks, and must be protected against foxes.

Guinea Fowl have certain advantages. They are fair layers of eggs slightly smaller than a hens, are good table birds and forage well. If trees are available they

keep out of the way of foxes at night, but they are difficult to keep within bounds and make a very irritating noise.

IV.

CONCLUSION

Summarised my views on poultry keeping, under present conditions, are as follows :—

- (a) Commercial poultry keeping is difficult if not impossible, to start in view of the restrictions on feeding stuffs.
- (b) A few chickens or ducks to meet household egg requirements, and a few for the table, are a very good proposition.
- (c) Similarly the rearing of one or two Turkeys or Geese for Christmas is worth considering.
- (d) Poultry, even in small numbers, are somewhat troublesome, and it is best not to keep any unless you can guarantee regular attention every day of the year.

Note :—It should be noted that, at the present time (January 1948), if more than twenty-five laying birds are kept the surplus eggs *must* be sold to the Government through their egg marketing organisation. It is illegal to sell them in any other way.

CHAPTER X

BEEKEEPING

I.

GENERAL

NO country pursuit demands greater skill—or produces better results where knowledge and good practice are applied—than beekeeping. Where bees are left to their own devices, and a visit paid once a year in the Autumn to take the honey, losses of colonies will be heavy and where the bees *do* survive fifteen or twenty pounds of surplus honey per hive will be the maximum in a good season. With the really skilled man the picture is very different, and harvests of 100 pounds or more per hive are possible in a good district in a good season.

However docile bees may be, or however well protected the beekeeper, a few stings are inevitable. With most people the inconvenience is very slight, but with a few—probably not more than 1 in 500—the effect of even one sting is considerable and may be dangerous. If you are one of these people you should not keep bees.

The essentials to successful beekeeping are :—

- (a) Good bees.
- (b) Sound hives and other equipment.
- (c) A good district—most country districts are reasonably good.
- (d) Aptitude for the craft and knowledge.

The best results are obtained when only a few hives, say not more than ten, are kept, and they can be given individual attention. If run on commercial lines with hundreds of hives it becomes a matter of routine, and it

is probable that under these conditions an average yield of more than about fifty pounds per hive is not feasible in this country.

In most districts of Great Britain eighty per cent. of the honey yield is from white clover and this only lasts for about five or six weeks—from mid-June to the end of July. The beekeeper's success depends on his ability to get his bees into the best possible form for this short period; but even then he may be defeated by bad weather.

In Scotland, and a few districts in England, heather (ling *not* bell heather) is the main source of honey. This is an autumn crop and requires a somewhat different technique to clover honey production.

A great deal of literature has been written on bee-keeping and this Chapter is the merest introduction to the subject. For the beginner I would very strongly recommend "Honeycraft" by J. A. Lawson. This book is brief, but gives all the essentials, is up to date and well written and illustrated. If further insight into the craft is required I recommend "Practical Beekeeping" by Arthur M. Sturges. For the experienced Beekeeper, who wishes to go in for Queen Rearing, there is no better book than "Queen Rearing" by L. E. Snelgrove.

For details of other works see Appendix B.

II.

THE HONEY BEE

A colony of bees consists of one Queen, many thousands of Workers (females normally incapable of reproduction) and during the summer months a few hundred Drones (males).

The Queen is a mature female (whereas the Worker is an immature one). Her duty is to lay eggs, which she does in a manner which puts the domestic hen to shame. A good Queen in mid-summer may lay as many as 3,000 eggs per day. She is the only bee in the colony which

lays eggs, and she is the Mother of the hive. Usually she only leaves the hive twice during her life—once in her youth to meet a Drone and be mated, and once when the colony swarms. In good bee keeping a Queen is never allowed to survive more than two summers as by that time she is past her prime. In nature Queens may live for as long as four years.

Worker bees are females whose organs of reproduction are undeveloped. They form the vast majority of the inhabitants of the hive. For the first two or three weeks of their lives they remain inside the hive, employed on domestic duties. About the third week they become field bees and spend the rest of their lives gathering honey, pollen and water. The life of a worker bee varies from six to eight weeks in summer, when she is active, to several months in winter when she is in a state of semi-hibernation. ✓

Drones, who rarely exceed four or five hundred per hive, are the males whose sole duty is to fertilise Virgin Queens. They possess the remarkable characteristic of being the product of an unfertilised egg—i.e. one in which the male element, stored up in the Queen's body, has not been introduced. A Drone's nearest male relative is his maternal Grandfather. The colony by some means induce the Queen to produce Drones in the Spring. By the end of July or early August all Virgin Queens have usually been fertilised and the Workers then dispose of the Drones by stinging them to death. The life of a Drone, therefore, rarely exceeds more than a few weeks. The act of mating with a Virgin Queen takes place in the air, the strongest Drone on the wing catching the Queen. This single mating is thought to be for life, but some authorities consider that Queens occasionally mate twice or even three times.

Before becoming an adult a bee passes through three stages of what is called brood—egg, larva, and pupa. The time remained in these stages varies according to whether the egg is destined to become a Queen, Worker or Drone. The exact periods are as follows :—

<i>Stage</i>	<i>Queen</i>	<i>Worker</i>	<i>Drone</i>
Egg	3 days	3 days	3 days
Larva	5½—6 „	6 „	6½ „
Pupa	7—7½ „	12 „	14½ „
	16 days	21 days	24 days

Each egg is laid in a cell of the comb. The bees construct the cells of varying sizes, those for Queens being the biggest, Drone cells next and Worker cells the smallest.

In addition to being used for brood the cells of the comb are used for storing honey and pollen.

There are several races of bees—Italians, Caucasians, Blacks, Hybrids and many others not worth considering. In each race there are many different strains with varying characteristics.

My own view is that a good strain of Italian bees is superior to all others. The Queens are prolific, the workers are industrious, they are reasonably docile and do not swarm unduly.

Many experienced beekeepers, however, regard Caucasians as superior to Italians. They are very docile, work well and do not swarm excessively.

There are many varieties and strains of black bees, some good and some bad. Unless one knows something about them before purchase a colony of blacks is rather a chancy business. Some strains are very savage.

Hybrids are often excellent bees in the first generation, but when crossed again frequently develop undesirable qualities.

An undesirable colony can always be requeened in the summer or autumn with a Queen of desirable race and strain. As the life of a bee in the active season is only a few weeks, the whole colony can be changed within a short time by this means.

It should be every bee keeper's aim to rear his own Queens, but this requires experience and the novice is advised to purchase from a reliable source. Mr. Douglas Roberts, The Bee Farm, Wootton Bridge, Isle

of Wight, is a well known breeder of Queens of Italian type.

Bees, like most other livestock, are subject to disease. Bee diseases are highly infectious and no pains should be spared when starting to secure disease free colonies. It is a wise precaution to get the County Expert to inspect stocks before purchase. The need for strict precautions cannot be over emphasised. It is very unwise to purchase second hand hives or other equipment which may carry the spores of disease.

Bee diseases are of two types, those affecting the adult bee and those affecting the brood, the latter being the most serious. The keen beekeeper should learn to diagnose and treat these diseases. "The Diseases of Bees : their Signs, Causes and Treatment," issued by The Apis Club is a most ably written and exhaustive book on the subject.

III.

APPLIANCES

The Hive

The most important item of equipment is the hive, which must be of a satisfactory pattern, and made of good material, if the bees are to thrive.

There are two types of hive in common use in this country—namely, double walled and single walled hives. Opinions differ as to their respective merits. The double walled hive is expensive, rather clumsy and somewhat complicated ; but it is probable that they are best for wintering bees in cold localities. Single walled hives are cheap, simple, very convenient to use, and can be constructed at home by anybody with an elementary knowledge of carpentry.

My wife and I have kept bees on and off since 1938 in single walled hives of my own make. My Winter losses have been negligible and I have found them very satisfactory. Except in Scotland, and cold localities in England, I strongly recommend their use in preference to double walled hives.

The various types are illustrated in the catalogues of bee appliance dealers, the single walled variety being generally known as "National" hives, but some dealers refer to them by other names.

"Honeycraft" (Lawson), referred to above, gives explicit details of how to construct a single walled hive.

Combs

In nature bees construct their own combs in a somewhat irregular manner. When kept in hives the beekeeper gives them frames containing sheets of wax which they "draw out" to form cells. This saves the bees the trouble of making their own wax and the frames are convenient to handle.

These frames are made in several sizes to suit various types of hive; but the most usual, and the size recommended, is the British Standard frame measuring 14" x 8".

Honey can be produced in two forms—i.e. run or extracted honey sold in pots and comb honey sold in sections of comb measuring $4\frac{1}{2}$ " x $4\frac{1}{2}$ ".

Sections are more difficult to produce than honey for extraction, as bees dislike working in small compartments. In heather districts, however, it must be produced in this way as heather honey is too thick to extract.*

Other items of equipment

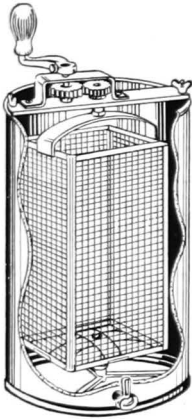
An extractor, ripener and uncapping knife are necessary for extracting honey from the combs and preparing it for bottling.

One Queen excluder per hive is essential in modern beekeeping. This is a slotted metal sheet of the same dimensions as the top of the hive in plan. The slots are large enough to permit Worker bees passing through them freely, but too small to allow the Queen to do so. It is used to confine the Queen to the lower part of the hive, so that she does not lay eggs in the upper part which is used for storing honey.

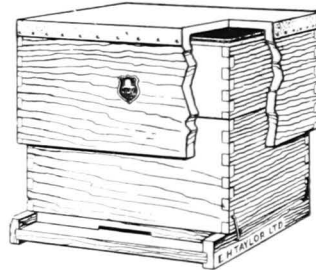
* *Note.* At present (1947) it is illegal to produce sections except in heather districts.

BEEKEEPING EQUIPMENT

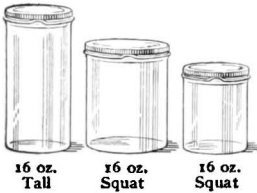
(See Chapter 10 and Appendix A)



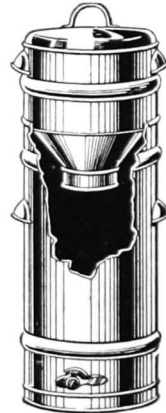
(a) Small type of extractor for extracting honey from combs. Front cut away to show interior



(b) Single walled "National" hive of the type recommended. Portion of front cut away to show interior



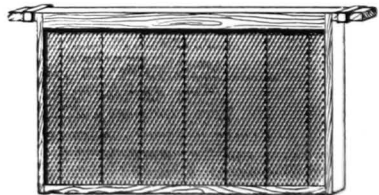
(d) Honey Bottles. The 16oz. squat type in centre, is recommended



(c) Honey Ripener in which extracted honey is allowed to settle for 48 hrs. Top portion makes a good substitute for an uncapping tray

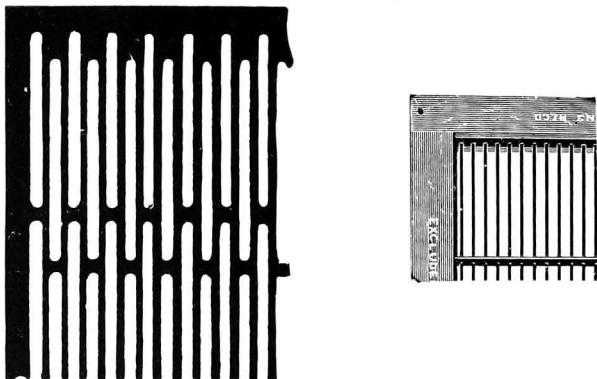


(e) "Solar" Wax Extractor for rendering bees wax by heat from the sun

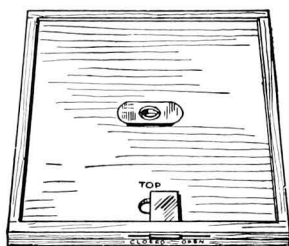


(f) Moveable frame with wired foundation (i.e. wax, before it has been "drawn out" by the bees)

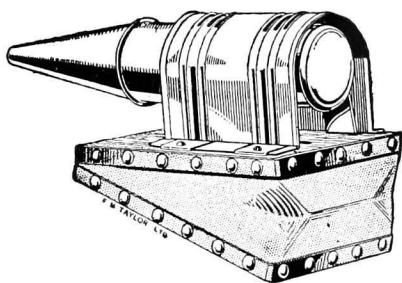
BEEKEEPING EQUIPMENT—continued



(g) Portions of two types of Queen excluder—zinc (left) and wire (right) for confining the Queen to any particular part of the hive



(h) Super clearing board. The hole in the centre is a "one way street" and the board is used for clearing the bees from the combs to be removed for extraction



(j) Smoker—for subduing bees during manipulation

Other essentials are a smoker for subduing the bees during manipulations and a veil for protection. The novice is also advised to procure a special pair of gloves, although experienced beekeepers rather scorn their use.

These are the absolute essentials, but as experience is gained other items—such as feeders, clearing boards, hive tools, etc. will suggest themselves. These sundries are of varying design and particulars may be found in dealers catalogues—a study of which is the best method of becoming acquainted with the various appliances.

IV.

THE MANAGEMENT OF BEES

It is not my intention to give details of how to handle bees, which is described in all text books devoted exclusively to bees ; but rather to give an outline of the seasonal tasks and to describe the activities of bees at various times of year.

The beekeepers year really starts in the Autumn. By the end of September the surplus honey has been taken and the colony prepared for winter. If the beekeeper knows his business the hive should consist of a young Queen reared that summer, a high proportion of young bees, and not less than 35 lbs. of stores (honey or sugar syrup). Given these conditions, a good hive and freedom from disease, the colony should winter well and be in first class condition next Spring.

As the winter draws on the Queen gradually decreases her laying and for a few weeks in mid-Winter does not lay at all. The bees form what is called the winter cluster and remain dormant—consuming very little stores and only moving sufficiently to maintain the heat of the hive.

In January or early February the Queen starts laying again and by mid-March is laying quite a lot, and by mid-April still more. Meantime, the beekeeper should leave the hive alone. His first look inside the hive

should be on a warm day in April. If there is plenty of brood and stores the beekeeper need not do anything. If they are short of stores he should give a few pounds of sugar syrup. It should be noted that at present (1947) beekeepers get a special ration of sugar— 5 lbs. per hive in Spring and 10 lbs. in the Autumn. Any Food Office will tell you how to obtain this.

The next thing to do is to provide an extra brood body with frames containing wax sheets and go on adding these until the end of the honey flow (towards the end of July in most districts). In a normal season two extra brood bodies are usually required, but in exceptional ones three or even four, are necessary.

Provided they have been given plenty of room by the addition of extra brood bodies the bees will not think of swarming until the end of May or early June. If left to their own devices they will, however, probably do so later, but the good beekeeper usually prevents this calamity—which if it occurs, seriously reduces his honey harvest. Some rely on giving plenty of room, but this is not a certain method, and the really skilled craftsman adopts one of the better known methods of swarm control. These appear complicated to the novice, but are really quite simple. The two best known are :—

- (a) The Demaree System, described in detail in “Honeycraft” by J. A. Lawson.
- (b) The Snelgrove System described in “Swarming. Its Control and Prevention” by L. E. Snelgrove.

I have tried both systems, and would not like to recommend one in preference to the other. Both have stood the test of experience for several years in different localities.

About mid-August the beekeeper takes the surplus honey, leaving sufficient (together with the 10 lbs. of sugar allowed) to make up about 35 lbs. in all. He then re-queens the hive with a purchased Queen, or one he has bred himself—if this has not been done earlier.

The final operation of the year is to feed to the bees the

10 lb. sugar allowance and make the hives weather proof for the winter.

That in general terms is the beekeepers year. If you intend to go in for beekeeping you should visit an experienced beekeeper, have a talk with him and if possible watch him manipulating his stocks. You should also study the theory of the subject by reading one of the books recommended (see Appendix B). This Chapter is merely an introduction, without any of the frills, and does not pretend to be exhaustive.

There are three methods of starting beekeeping. The best, but most expensive, is to purchase from a reliable source a colony on eight or ten frames as early in April as the weather permits. The price will be about £5 or £6, but you will probably get a fair surplus of honey that season. Alternatively you can make another two or three colonies out of the original stock, but in that case you will not get much, if any, surplus honey.

The second method is to purchase a Nucleus on three or four frames. This will cost you about £3, but you will get very little honey that year, and increase will be inadvisable.

The third, and cheapest, method is to buy, or take, a natural swarm in May, June or July. This again will give little surplus honey and increase will not be possible. There is a danger of introducing disease by this method and for that reason it is not strongly recommended.

Whatever your method of starting beekeeping take every precaution to get disease-free bees. Consult the County Advisor or some other expert.

Beekeeping is somewhat expensive to start with, but once purchased the equipment lasts for many years, and it is not difficult to increase the number of colonies once two or three strong stocks have been established.

Almost any flat piece of ground makes a suitable site for a few hives, but a little preparation saves a lot of labour and trouble later. I stand all my hives on concrete slabs measuring 2' x 2' x 2" thick. These can be purchased from most builders merchants for about 3/- each. They provide an absolutely firm base and

prevent grass and weeds growing up in the immediate vicinity of the hives. The site should be sheltered from North and East winds, and the hives should face approximately South-East.

The beekeeper need not confine himself to the production of honey. As he gains experience he may find it more profitable to produce colonies of bees for sale. If he has really good bees, free from disease, this is probably a better proposition, and a more interesting one, than honey production.

Apart from profits beekeeping is intensely interesting. Much has still to be discovered about these remarkable insects and there is considerable scope for research in their management and breeding, and in the design of hives and other equipment.

The novice must, however, be prepared for disappointments and set backs. It is a difficult craft and many factors, outside the beekeeper's control, operate against him—the weather, disease and the somewhat unpredictable habits of bees. Up to 1945 I had a very fair run of successful seasons with my stocks, but in 1946 and 1947—under conditions which appeared to be very favourable—I suffered a number of losses and irritating mishaps.

Throughout this book I have emphasised the importance of purchasing livestock from reputable dealers—not from amateur friends and acquaintances who may, quite innocently, supply diseased stock. This view requires some modification in the case of bees. Many of the most knowledgeable and up-to-date beekeepers are amateurs; in fact some of the most valuable research work has been carried out by those who regard the craft as a hobby rather than a business. Although many large firms—including most of the bee-appliance manufacturers—sell good bees, it does not follow that a purchase made from an amateur is necessarily suspect. If you *do* purchase from an amateur make certain that he is a thoroughly conscientious and competent one, and above all one who does not tolerate disease among his stocks.

CHAPTER XI

OTHER POSSIBILITIES AND SIDE LINES

I.

GENERAL

IN previous Chapters I have tried to indicate the agricultural activities which I consider are most suitable for the majority of those for whom the book is written.

In my view the breeding of pedigree cattle, pigs and sheep in a specialised form of farming requiring more capital, greater experience and a larger acreage than I have contemplated. There are, however, certain forms of husbandry, and sidelines, on which I have not touched but which may appeal to some readers. I will try and deal with a few of these in this concluding Chapter.

II.

GOAT KEEPING

Goats have the disadvantage, common to all live stock, of requiring regular daily attention. If this difficulty can be overcome goat keeping has obvious attractions in these days of milk shortage. In the past we have always had adequate supplies of cow's milk and, owing to this, goats have not been kept extensively in this country. In some other countries many more people, of all classes, keep goats.

A good "Nanny" will give six to eight pints of milk per day. Although the milk is rather sweet when drunk by itself, it is almost indistinguishable from cow's milk with tea or coffee. Moreover, tuberculosis is almost unknown in goats, and the milk can be drunk with safety.

There are several methods of keeping goats :—

- (a) They can be tethered, although this is somewhat troublesome, as they have to be moved two or three times a day.
- (b) Free range. This pre-supposes good fencing, as goats are very nimble and difficult to keep within bounds. Good pasture is not essential, as goats do well on a variety of wild plants.
- (c) Intensively. Goats do well in stalls or loose boxes provided they are given some regular daily exercise in a yard or other enclosure.

Whatever system is adopted some form of shelter must be provided at night (except in the summer), against severe weather, when kidding and for milking—although it is possible to milk a goat in the open.

Probably the best method of keeping one or two goats is on free range in a well fenced paddock of rough grass, or in an orchard of well established standard trees, with a fairly substantial shed or outhouse near the gate. Goats do not generally “bark” old trees; although they occasionally develop a habit of doing so, and the trees should be inspected frequently in case this happens. They must not be kept among bush or young trees, as they play havoc with any branches within their reach.

Goats are not particular as regards food. Those on free range will find a high proportion of their keep, even on poor hill land. Those kept under more confined conditions do well on a variety of diets—hay, grass, cabbage leaves, bean and pea haulms, acorns in small quantities, etc.

A plentiful supply of clean water is essential.

A difficulty for those keeping one or two “Nannies” is the necessity for periodical visits to a suitable “Billy”—which may involve one or other travelling a considerable distance. The Ministry of Agriculture and the British Goat Society have a Stud Goat scheme, by which the services of a good “Billy” are provided for a fee of a few shillings. Particulars are obtainable from the British Goat Society.

In the not too distant future it may be possible to overcome the difficulty of providing a "Billy" by means of artificial insemination, which has proved very successful with goats. The process requires special equipment and is a matter for experts. As yet there is no "scheme" in operation which offers the necessary facilities to the small goat keeper. In this connection it should be noted that the British Goat Society only recognises kids for registration purposes if prior notice of intention to adopt artificial insemination is given.

For many people the breeding of pedigree stock—particularly Dairy cows—has a marked attraction. Although I have no experience of commercial goat keeping I have often felt that the building up of a pedigree herd of goats would be a most interesting, and probably, profitable undertaking.

It would be a shorter term project than a similar one for dairy cows and the capital outlay would be very much less. It would, however, be a serious undertaking requiring a good deal of initial outlay on stock, buildings, etc. and is perhaps a little beyond the scope of this book; but to me it has distinct attractions.

There are many breeds of goats, and good and bad strains of each breed. Whatever breed is selected purchase should be made from a breeder of repute, as the question of strain is very important.

The best known breeds are Swiss (Swiss Toggenburg and Swiss Saanen) and British—developed from Swiss and other foreign breeds (British Toggenburg, British Saanen, Anglo-Nubian and British Alpine). The heaviest milkers are probably Toggenburgs (British and Swiss).

A good utility goat costs from £10 to £14 to-day (1947), and a pedigree one £18 to £20.

Novices wishing to start goat keeping in a small way are advised to read "Goat Keeping—Young Farmers Club Booklet No. 8"—published by the National Federation of Young Farmer's Clubs and procurable from the Pilot Press Ltd., 45 Great Russel St., London, W.C.—price 1/-. .

Those considering pedigree breeding on commercial lines should consult the Secretary, British Goat Society (address :—The Cottage, Roydon, Diss, Norfolk). The Society issue a series of pamphlets, costing only a few pence each, on every aspect of goat keeping.

III.

LOGS, PEA AND BEAN STICKS

The sale of timber, in the form of logs for use as fuel, kindling wood and pea and bean sticks may be a very useful sideline. This is specially so when one first takes over a property which has been neglected. Under these conditions it may often be necessary to fell some old trees, remove whole branches from large fruit trees and reduce hedges to reasonable dimensions.

All this timber has a use. If the amount is small—as will usually be the case once the initial work of renovation has been carried out—the bigger timber can be used for logs for the house, fencing posts etc., and the smaller for kindling wood for domestic use and for pea and bean sticks for the vegetable plot.

If the amount exceeds your own requirements there should be little difficulty in selling logs in these days of coal rationing, and if pea and bean sticks are done up into reasonable sized bundles they too should be easy to dispose of.

Some people seem to like cutting up and splitting logs. It was reputed to be one of the main pastimes of the late Kaiser William II during his exile in Holland. I must confess that it has never appealed to me : the labour involved seems out of all proportion to the results. It takes weeks of hard sawing to do the work which can be done by a power driven saw in a few hours. The best method is to collect a good pile of timber in some accessible place—such as in a field near a gate leading onto a road—and to contract with an owner of a power saw to come with his apparatus and cut it up. I did this in 1946. The cost was 25/- for about four hours

work and the estimated quantity of logs cut up was three years supply for my household.

Timber destined for use as fuel can be left lying in the open for one or two years, or more, before being sawn and split. It should be properly stacked, however, as contact with the ground may cause it to rot.

Certain regulations are in force regarding the disposal of timber. These vary from time to time and are only applicable where considerable quantities are involved. The average reader is not likely to be concerned with them, but if he has a large quantity for sale he should certainly make enquiries concerning the legal aspect. This is best done *before* felling commences.

IV.

THUMB STICKS AND CANES

The production of walking sticks and canes is not one which I feel should be strongly recommended in this book—one of the main objects of which is to increase food production.

Nevertheless, in districts where suitable sticks grow, it may be an interesting hobby.

A few people in this country have gone in for thumb sticks—usually made of blackthorn, about 4' 4" long with a small fork at the top in which the thumb is placed. I have seen these sticks in two fashionable London shops priced at from 25/- to £2 each. Personally I have only come across one blackthorn stick which was long and straight enough for the purpose. It took me an hour to cut off the side branches and thorns with a sharp chisel, and perhaps a total of half an hour to dress it daily for a week with linseed oil. It appeared to be just as good as the professionally made ones I had seen in the shops, and if this supposition is correct it would seem to be a very lucrative occupation—provided long straight sticks are obtainable.

Blackthorn riding sticks, about 18" long, are very easy to find, cut and dress. I have made several which

compare favourably with others I have seen in shops priced at 5/- and 7/6*d.* each.

I can well believe that the production of sticks and canes from the hedgerows of our countryside could be a very fascinating and skilled craft, which may appeal to some as a commercial proposition—when the present call for food production is less urgent.

V.

FLOWER CULTURE

Every householder is entitled—even in these times—to grow a few flowers in his garden ; but I can raise no enthusiasm for the large flower garden, or for commercial flower growing, so long as bread, potatoes, eggs, meat, etc. remain rationed.

If properly done, however, commercial flower culture can be very profitable in a suitable locality, and there is no harm in investigating the possibilities in your own district with an eye to the future.

Some people, and I am one of them, are fortunate enough to have an established orchard with wild or “naturalised” daffodil bulbs growing in it. If this is so no good purpose is served by not making the most of them. With a little trouble a market can usually be found for daffodils, and a good price is obtainable—especially if they include some of the more choice varieties.

VI.

PRESERVES AND BOTTLED FRUIT

There can be no question as to the desirability of bottling fruit and making jam, chutney, etc. for household use. In fact it should be one of the main objects of growing soft fruits and tomatoes.

Although jams require a high proportion of sugar the average family can usually save sufficient to make a

small quantity. As regards bottling, there are several methods which do not involve the use of large quantities of sugar.

The methods adopted depend on the type of cooking stove and other facilities. Many books and pamphlets on the subject are on sale—one of the best is "Preserves from the Garden" (Growmore Bulletin No. 3) issued during the War by H.M. Stationery Office, price 4d.

Commercial jam making and fruit bottling, from produce from the holding, is quite a feasible proposition; but is not to be undertaken lightheartedly.

Adequate outhouses, for preparation and storage, will be required and the capital outlay on cooking and other apparatus will be considerable. Labour requirements will be seasonal and consequently casual labour may have to be employed. This will probably be difficult to get and will require some prior instruction, and careful supervision.

Moreover, the production and sale of preserves is subject to fluctuating Government controls. Careful enquires will be advisable on this aspect of the matter—together with the prospects of obtaining special allocations of sugar, and other necessary ingredients—before embarking on a project of this sort. It is also of great importance to make certain that the process selected for each type of preserve is really satisfactory, as in the event of failure, and a large quantity of produce becoming uneatable, the financial loss would be a heavy one.

VII.

WORKSHOP

Most householders have some sort of outfit for carrying out small repairs in the house and garden—even if it be only a miscellaneous assortment of the commoner types of carpenter's tools.

The smallholder requires something more than this. Nothing very elaborate is necessary, but a workshop of

some kind, with a bench (fitted with a vice) and a good set of tools is essential.

It is probable that many who read this book will have little or no experience of carpentering. They need not be discouraged by this, as any ordinary person can soon become proficient in the use of the simpler tools. The construction of bee hives, chicken houses, seed boxes, etc. only require the ability to saw straight, hit a nail in straight and measure with a rule—accomplishments which do not demand a high standard of intelligence or a long course of training.

Any small outhouse, or part of a garage, makes a suitable workshop ; but as most of the indoor work will be reserved for wet days, probably during the winter, it is as well that it should be weather proof and reasonably warm. A large window, above the bench if possible, is desirable and it will be an advantage to have electric light.

A list of tools suitable for a small workshop is given in Appendix A. Quite a lot of useful information can be gained by reading a good book on the subject—such as “The Complete Woodworker” (Cassells Handycraft Library).

VIII.

OUTHOUSES AND SHEDS

Good outhouses and sheds are essential to a successful holding run on labour saving lines.

Several small outhouses, conveniently sited, are much better than one central one. If you have to keep all your tools, appliances, fertilisers, etc. in one central place a lot of time will be wasted carrying to and from the places of work. This is avoided if each department—vegetable garden, orchard, bees etc.—has its own outhouse or shed.

It should be part of the original lay out, or plan, for the holding to provide adequate outhouse accommodation, if it does not already exist.

Permission to construct any form of outbuilding must be got from the local authorities ; but in country districts permits are not usually difficult to obtain.

Huts, in sections which can be bolted together and erected quickly, can be purchased from firms who specialise in this work. In these days, however, they are very expensive, even the smallest costing £25 or so. The reader is strongly advised to try and purchase salvaged wood (for which a permit is not generally required) and construct his own. This is not a very formidable task and should be well within the capacity of the owner himself or any intelligent casual worker he may employ. The best plan is to get acquainted with somebody who has a shed similar to the one you require, and take particulars of its measurements, materials used and method of construction.

It is important that the work should be reasonably well "finished"—as it can be without any very special skill—otherwise you will erect the type of eyesore so commonly seen when making a railway journey almost anywhere in Great Britain.

The following outhouses are suggested for an average holding :—

- (a) Workshop—can often be included in a large garage.
- (b) Vegetable garden, tool and potting shed.
- (c) Store for apples, potatoes, and other roots mainly for household consumption.
- (d) Shed for bee keeping equipment and for extracting and bottling honey. Not essential unless the number of hives exceeds about ten. If used for extracting and bottling it *must* have a large window and be bee-proof.
- (e) Shed in orchard for keeping orchard equipment in, and for grading and packing apples. This is not essential unless the acreage is large (say more than three acres), but is a great convenience in all circumstances.

APPENDICES

- A. List of Equipment.
- B. List of Useful Books and Periodicals.
- C. List of Individuals and Firms who supply equipment, livestock, etc. suitable for a holding.
- D. Specimen cash, bank and analysis book.
- E. Specimen property book.
- F. List of Government Departments, Associations, Experimental and Research Establishments, etc.

APPENDIX A.

LIST OF EQUIPMENT

This list is offered as a guide for an average holding, and can be adjusted to suit particular circumstances. It may appear to be on a somewhat lavish scale ; but, as pointed out in Chapter II, the reasonable duplication of tools and other equipment avoids much waste of time.

Items marked * are not regarded as essential, but may be very useful.

VEGETABLE GARDEN (about 500 sq. yds.).

- | | |
|---|---|
| 1 Wheel barrow. | 1 Water Can (large). |
| 2 Forks (large and small). | 2 Buckets. |
| 2 Spades (large and small). | 1 Powder sprayer (flit gun type). |
| 1 Shovel. | 1 Small hand sprayer (for liquid sprays). |
| 1 Trowel. | *2 doz. Small Tent Cloches. |
| 1 Hand Fork | *1½ doz. Large Tent Cloches. |
| 1 Dutch Hoe. | *1 doz. Large Barn Cloches. |
| 1 Draw Hoe. | *1 Hose (if piped water supply is handy). |
| 1 Onion Hoe. | *20 Wire netting seed guards. |
| *1 "Wrigley," or small pattern Cultivator. (See Chapter 2). | *1 pr. Hedge Clippers. |
| 1 Dibber. | 1 Reaping Hook. |
| 1 Garden Line. | 1 pr. Scissors. |
| 1 Rake. | 1 Garden Knife. |
| 1 Garden Sieve (half inch). | |

GREENHOUSE (Small).

- | | |
|----------------------------|-------------------------------|
| 12 small seed boxes. | 1 Trowel. |
| 6 large seed boxes. | 1 Teaspoon For transplant- |
| Assortment of flower pots. | 1 Kitchen Fork ing seedlings. |
| 1 Water Can (small). | 2 Buckets. |
| | 1 pr. Scissors. |

ORCHARD.

The following are suitable for an orchard of say three acres which is reasonably compact, and planted with Bush trees.

- | | |
|---|---|
| 1 Sprayer (Stirrup Pump or Knapsack type). | 1 Spade. |
| 1 Wheel barrow. | 1 Fork. |
| 1 Small Handcart. | 2 Draw Hoes. |
| 1 Reaping Hook. | 2 Buckets. |
| 1 pr. Steps (for picking and pruning upper branches). | 2 prs. Secateurs (or 2 pruning knives). |
| | 1 Small Saw. |
| | 6 Apple picking bags. |

Note :—If the orchard consists of standard (or half standard) trees a more powerful sprayer and ladders will be necessary.

SOFT FRUIT PLANTATION.

If this adjoins either the Vegetable Garden or Orchard, and is on a small scale, no special equipment will be necessary. If not some, or all, of the following will be required.

- | | |
|--|--|
| 1 Wheel barrow. | 1 Trowel. |
| 1 Sprayer (Stirrup Pump or Knapsack type). | 1 Hand Fork. |
| 1 Spade. | 1 pr. Secateurs (or 1 Pruning Knife). |
| 1 Fork. | 1 pr. Scissors. |
| 1 Draw Hoe. | Baskets for picking Fruit. |
| 1 Onion Hoe. | *1 doz. Large Tent Cloches (for bringing on an early row of Strawberries). |
| 1 Rake. | *Assortment of small flower pots for strawberry runners. |
| 1 Bucket. | |

POULTRY. (Chickens or Ducks for household purposes).

- 1 Poultry House.
- 2 Feeding Troughs (one in use, the other for the following day).
- 1 Water Trough.
- 1 Small Dust Bin (for storing balancer meal or grain).
- 1 Draw Hoe. For cleaning house.
- 1 Bucket.

Note :—The above are sufficient for up to ten or twelve birds for egg production. If table birds are also kept another poultry house (with feeding and water troughs) will be required. For chickens the “folding” type of combined house and run is best. (See Chapter IX).

If young chickens are to be reared coops for sitting hens, or a brooder (with feeding and drinking utensils) will be necessary.

BEEKEEPING EQUIPMENT.

- 1 Extractor.
- *1 Honey Ripener.
- Hives as required—each hive consisting of 1 floor board, 4 brood bodies, 1 crown board (in the case of single walled hives) and 1 roof.
- Feeders—1 per hive.
- Queen Excluders—1 per hive.
- Comb frames with comb—on a scale of 10 per brood body.
- Division boards—not less than 1 per brood body.
- Super clearing boards—1 for every 2 hives.
- 1 Uncapping Knife.
- *1 Uncapping Tray.
- 1 Veil.
- 1 pr. Gloves.
- 1 Hive Tool.
- 1 Smoker.
- 1 pr. Scissors.
- *1 Solar Wax Extractor.

Notes :—

1. Those going in for Section (or comb) Honey will require at least two Section racks per hive and a supply of Sections and Comb.
2. Some of the above terms may be too technical for the novice to understand, but reference to one of the books mentioned in Appendix B, or to a Bee Appliance Makers catalogue, will enlighten him.

WORKSHOP.

The following articles are suitable for a small workshop for making simple articles of equipment and carrying out repairs.

- 1 Carpenters Bench (with vice attached).
- 1 Jack Plane.
- 1 Smoothing Plane.
- *1 pr. Matching Planes.
- 2 Hammers (large and small).
- *1 Mallet.
- 2 Screw Drivers (large and small).
- 3 Chisels (varying sizes).
- 3 Gimlets (varying sizes).
- 2 Bradawls (large and small).
- 1 Rasp.
- 1 File.
- 1 Scraper.
- 1 Tenon Saw (10").
- 1 Medium sized Hand Saw (24").

- 1 Key Hole Saw.
- 1 pr. Pincers.
- 1 pr. Wire Cutters.
- 1 Brace and set of Bits.
- 1 Folding Rule.
- 1 Square.
- 2 Carpenters Pencils.
- 1 Hack Saw.
- 1 Hand Drill and Bits (for drilling holes in metal).
- 1 pr. Scissors.
- 1 Glass Cutter.
- Assorted Nails and Screws.
- 1 Stone and small Oil Can (for sharpening edged tools).

MISCELLANEOUS.

The following useful articles of equipment are for general use on the holding. They will not all be suitable for every Holding.

- 1 Ladder (15 to 20 rung).
- 1 Trailer for car.
- 2 Tarpaulins (for covering small hay ricks, etc.).
- 1 Two Handed Saw (for cutting very large timber).
- 1 Large Hand Saw.
- 1 Log Bench (for cutting up large timber).
- 1 Crow Bar (for making deep holes in ground for posts, etc).
- 1 Felling Axe.
- 1 Chopper.
- 1 Slasher.
- 1 Brushing Hook. For cutting hedges, nettles, docks, brambles,
- 1 Reaping Hook. long grass, etc.
- 1 Scythe.
- 2 Hay Forks.
- 1 Hay Rake.
- 1 Hay Knife.

Small stock of paint, creosote and suitable brushes for treating wood-work about the holding.

APPENDIX B.

LIST OF USEFUL BOOKS AND PERIODICALS .

This list is not exhaustive. It contains many books which I have read myself and a few which have been brought to my notice by friends.

Prices have not been given as these tend to vary when new editions appear.

Those marked * are out of print and can only be purchased second-hand.

GENERAL.

Books

This Plot of Earth.
(H. J. Massingham).

A treatise on the principles of production from the soil by a well known writer.

The Small Farmer.
(H. J. Massingham).

The Soil. (Sir A. D. Hall).

The Complete Woodworker.
(Cassells Handycraft Library).

A very good book on carpentering and the selection and care of tools.

Every Mans Own Lawyer.
(A. Barrister).

A useful book of reference on all legal matters.

Preserves from the Garden.
(Growmore Bulletin No. 3, issued by H.M. Stationery Office).

An excellent booklet on bottling ; jam ; chutney etc. making.

A simple System of Farm Book-keeping.

(Ministry of Agriculture and Fisheries Bulletin No. 58 issued by H.M. Stationery Office).

Rural Crafts. (E. V. Stone).

Note :—The National Federation of Young Farmer's Clubs (55 Gower Street, London, W.C.1.) issue a variety of publications on general farming, livestock keeping, etc., and these are strongly recommended. A few are listed under the various headings in this Appendix, but a complete list can be obtained from the above address.

Periodicals*The Estate Magazine.*

(Issued by the Country Gentlemen's Association Ltd.).

Monthly to all members.

The Countryman.

Quarterly. Address :—Burford, Oxford.

The Smallholder.

Weekly.

The Farmers Weekly.

Weekly.

The Farmer and Stockbreeder.

Weekly.

Monthly List of Statutory Rules and Orders.

Published by H.M. Stationery Office. (See Chapter III, Sec. V.).

BEEKEEPING.Books*Honeycraft.* (J. A. Lawson).

Very strongly recommended for beginners.

**Practical Beekeeping.*

(A. M. Sturges).

Very comprehensive and fairly advanced.

Honey Production.

(R. O. B. Manley).

Describes the working of a large scale bee farm, by a practical commercial honey producer.

Swarming—Its Control and Prevention. (L. E. Snelgrove).

Describes in detail the Author's well known system of swarm control.

Queen Rearing.

(L. E. Snelgrove).

A scientific but practical book, dealing with every aspect of this interesting subject. Strongly recommended.

Bee Keeping.

(Young Farmer's Club Booklet No. 2).

An elementary introduction to Beekeeping. Well illustrated.

**A Modern Bee Farm.*

(S. Simmins).

Although the first edition was published in 1888, this book contains many novel ideas and much of it is applicable to-day.

The Diseases of Bees : their signs, causes and treatment.

(Issued by the Apis Club).

An excellent scientific book, which should be studied by all serious beekeepers.

Periodicals*The Bee World.*

Monthly.

British Bee Keepers Journal.

Monthly.

*Note :—*Most County Beekeepers Associations issue a periodical (usually monthly) to their members.

ORCHARD AND SOFT FRUITS.Books

- Fruit Growing.*
(N. B. Bagenal). Deals with every aspect of the subject. Well illustrated. Strongly recommended.
- Fruit Growing for Small Gardens.*
(N. B. Bagenal). An abridged (and cheaper) version of the previous book.
- Tree Fruits.*
(Ministry of Agriculture and Fisheries Bulletin No. 2). Deals with Orchard Fruits in a practical and up-to-date manner.
- Fruit Production—Bush Fruits.*
(Ministry of Agriculture Fisheries Bulletin No. 4). A similar book to the previous one dealing with soft fruits.
- Mr. Middleton's Garden Book.*
(Published by the Daily Express). An excellent book by this well known war time expert, in the form of an encyclopædia. Also deals with vegetable and flower culture.
- The Cultivation of Berried Fruits in Great Britain.*
(Chas. H. Oldham).
- Fruit Growing for Amateurs.*
(H. H. Thomas).
- Harnessing the Hormone.*
(T. Swarbrick). The results of recent research work on what may prove to be a very important subject for fruit growers.
- Harvesting and Storing Garden Fruit.*
(R. G. W. Bush).

Periodicals

- Fruit, Flower and Vegetable Trades Journal* A useful publication for keeping abreast of controlled and market prices, changes in the law and Government orders. Also contains useful articles on fruit and vegetable culture.

POULTRY AND GOAT KEEPING.Books

- Good Poultry Keeping.*
(C. E. Fermor).
- Daily Express Domestic Poultry Book.*
- Poultry Keeping.*
(Young Farmer's Club Booklet No. 5).

Goat Keeping. An excellent introduction to goat keeping. Very well illustrated.
(Young Farmer's Club Booklet No. 8).

The Book of the Goat.
(H. S. Holmes Pegler).

Periodicals

Feathered World.

Poultry World.

Poultry Farmer.

Monthly Journal of the British Goat Society. Issued only to Members and Associates of the British Goat Society, and subscribers.

VEGETABLE GARDENING.

Books

The Vegetable Garden Displayed. A first class book. Very well illustrated.
(Issued by the Royal Horticultural Society).

How to Run an Allotment.
(Alec Bristow).

Food from the Garden.
(Growmore Bulletin No. 1, issued by H.M. Stationery Office).

Mr. Middletons Garden Book. An excellent book by this well known war time expert in the form of an encyclopædia. Also deals with fruit and flower culture.
(Published by the Daily Express).

Tomatoes.
(Ministry of Agriculture and Fisheries Bulletin No. 77, issued by H.M. Stationery Office).

Tomatoes and How to Grow Them.
(F. R. Castle).

Continuous Cloche Gardening. A comprehensive handbook on growing crops under cloches.
(W. E. Skewell-Cooper).

Periodicals

Fruit, Flower and Vegetable Trades Journal. A useful publication for keeping abreast of controlled and market prices, changes in the Law and Government Orders. Also contains useful articles on vegetable and fruit culture.

APPENDIX C.

LIST OF INDIVIDUALS AND FIRMS WHO SUPPLY EQUIPMENT, LIVESTOCK, ETC. SUITABLE FOR A HOLDING

Note :—Most of the names on this list are those with whom I have had personal dealings ; but a few dealers of known repute, and a few recommended to me by friends, have been included. The list is not exhaustive and many firms of the highest reputation are no doubt omitted—as I do not happen to have dealt with them or had their names brought to my notice.

GENERAL.

The Country Gentlemen's Association Ltd., Letchworth, Herts.

Supply every type of agricultural requirement—including livestock, fruit trees and bushes and seeds. The Association only does business with Members, and membership is strongly recommended.

Boots Chemists Ltd.

All branches of this well known firm have an agricultural department ; where fertilisers, insecticides, animal medicines and small articles of equipment can be purchased. This is a convenient method of making small purchases.

W. F. Woolworth & Co., Ltd., Stores.

All branches have an agricultural department and also sell the smaller types of garden and workshop tools.

Skinner, Board & Co., Bedminster, Bristol.

Manufacturers of greenhouses, cucumber frames, etc., specialising in designs made in metal. Also experts in greenhouse heating.

Harry Hebditch Ltd., Martock, Somerset.

Manufacturers of poultry houses and appliances, and portable buildings.

F. Praltn & Co., Ltd., Midsomer Norton, Bath.

Manufacturers of portable buildings and poultry houses—including the Apex Fold Unit.

VEGETABLE SEEDS, SEED POTATOES.

Sutton & Sons Ltd., The Royal Seed Establishment, Reading, Berks.

The Country Gentlemen's Association Ltd., Letchworth, Herts.

Chase Protected Cultivation Ltd., The Grange, Chertsey, Surrey.

This firm specialises in seeds of varieties most suitable for growing under cloches and in unheated frames and greenhouses.

W. Darlington & Sons Ltd., Southcourt Road, Worthing, Sussex.

Specialists in Mushroom spawn. This firm also supply an excellent pamphlet on Mushroom cultivation.

ORCHARD AND SOFT FRUIT, TREES AND BUSHES.

Laxton Bros., Bedford.

A well known firm with a high reputation for all types of orchard trees and soft fruits.

George Buryard & Co., Ltd., Maidstone, Kent.

George Pyne, Denver Nurseries, Topsham, Devon.

Blackmoor Nurseries, Liss, Hants.

Country Gentleman's Association Ltd., Letchworth, Herts.

Clarence Elliott Ltd., Six Hills Nurseries, Sevenage, Herts.

This firm specialise in Alpine Strawberries (see Chapter VIII, Sec. II.) and other Alpine plants.

The Four Oaks Spraying Machine Co., Four Oaks, Birmingham.

Specialists in the manufacture of every type of sprayer for orchard and bush fruits and for the vegetable garden.

POULTRY.

G. H. Kidner, West Green Farm, Poringland, Nr. Norwich, Norfolk.

A well known breeder of chickens—Rhode Island Reds, Black Leghorns and Black Leghorn-Rhode Island Red crosses.

B. G. Abbott, Attleborough, Norfolk.

Have a high reputation for many varieties of poultry—chickens and ducks.

Country Gentlemen's Association Ltd., Letchworth, Herts.

Can arrange supply of all kinds and breeds of poultry—also poultry houses and other equipment.

BEEKEEPING.

E. H. Taylor Ltd., Beehive Works, Welwyn, Herts.

J. T. Burgess & Son, 10 Goldsmith Street, Exeter, Devon.

R. Steele & Brodie Ltd., Bee Appliance Works, Wormit, Fife, Scotland.

The above firms all supply hives and other beekeeping appliances. Most bee appliance manufacturers also sell bees. Messrs. J. T. Burgess & Son, of Exeter, have a high reputation for supplying colonies of Italian and Caucasian bees. As the demand for bees greatly exceeds the supply orders should in all cases, be placed early—i.e. in the Autumn for the following Spring.

Douglas Roberts, The Bee Farm, Woolton Bridge, Isle of Wight.

A well known breeder of Queen Bees of Italian type.

APPENDIX 'D'

Date	Particulars	Voucher No.	Cash	Bank	Veg. Garden	Orchard	Soft Fruit	Poultry	Bees	Sundries -- Etc.
1947										
Jan.	1 Balance Cr.	-	4 5 6	98 10 0						
	3 J. Brown - Apples	1		49 8 0		49 8 0				
	11 S. Green - Honey	2	176						176	
	14 P. White - Logs	3		3 10 0						3 10 0
	22 F. Smith - Stock Cockerel	4	2 2 0					2 2 0		
						ETC.			ETC.	
						NOTES:-				
						(a)	In practice this account is kept in book form - this page (Receipts) on the left and the page overleaf (Payments) on the right. For reasons of space they are shown on separate pages in this Appendix. Analysis books can be purchased at most good stationers, or in Loose-Leaf form from the C.G.A.			
						(b)	See overleaf for payments			

SPECIMEN COMBINED BANK, CASH AND ANALYSIS BOOK (See Chapter 3) APPENDIX 'D'

PAYMENTS

[illegible]

APPENDIX E.

SPECIMEN EQUIPMENT BOOK (See Chapter 3).

DATE OBTAINED	PARTICULARS	LIFE & ANNUAL DEPRECIATION	VALUE				
			WHEN OBTAINED	1 ST JAN. 1944	1 ST JAN. 1945	1 ST JAN. 1946	1 ST JAN. 1947
3 Feb. '43.	1 Wheelbarrow	10 years 10/-	£5-0-0	£4-10-0	£4-0-0	£3-10-0	£3-0-0
17 July '43.	1 Poultry House	8 years £1-0-0	£8-0-0	£7-0-0	£6-0-0	£5-0-0	£4-0-0
		ETC.,	ETC.,	for 1943			
7 Mar. '44.	2 Beehives	12 years 5/- each	£6-0-0	—	£5-10-0	£5-0-0	£4-10-0
21 Dec. '44.	1 Garden Fork	10 years 3/-	£1-10-0	—	£1-7-0	£1-4-0	£1-1-0
		ETC.,	ETC.,	for 1944			
4 Apr. '45.	1 Fruit Sprayer	10 years £1-0-0	£10-0-0	—	—	£9-0-0	£8-0-0
29 Aug. '45	1 Saw	10 years 1/-	10-0	—	—	9-0	8-0
		ETC.,	ETC.,	for 1945			
		and	following	years.			

Notes:-

1. If the columns are allowed to extend over a full double page the book will last 10 or 12 years.
2. Although the first valuation after purchase covers a period of less than 12 months it is usual to deduct a full year's depreciation.

APPENDIX F.

LIST OF GOVERNMENT DEPARTMENTS, ASSOCIATIONS, EXPERIMENTAL AND RESEARCH STATIONS, ETC.

Note :—Addresses are subject to alteration—especially those of Government Departments.

(a) GOVERNMENT DEPARTMENTS.

Ministry of Agriculture and Fisheries.

55 Whitehall, London, S.W.1. (Main Office).

23/24 Soho Square, London, W.1.

Bickenhall Mansions, London, W.1.

27/30 Oxford Street, London, W.1.

Africa House, Kingsway, London, W.C.2.

Princeton House, 271 High Holborn, London, W.C.1.

99 Gresham Street, London, E.C.2.

St. Stephens House, Victoria Embankment, London, S.W.1.

Government Buildings, Heyhouse Lane, Lytham St. Annes, Lancs.

Welsh Department, 17 Eastgate, Aberystwyth, Cardiganshire.

Agricultural Advisory Service.

Block 4, Bickenhall Mansions, London, W.1.

Department of Agriculture for Scotland

Fielden House, 10 Great College St., London, S.W.1.

Eire.

Department of Agriculture, Dublin.

H.M. Stationary Office.

York House, Kingsway, London, W.C.2.

Milk Marketing Board.

Thames Ditton, Surrey.

95 Bothwell Street, Glasgow, C.2.

County War Agricultural Executive Committees.

Offices, together with those of the various advisory Officers, are normally located in the County Town of each County.

(b) ASSOCIATIONS, SOCIETIES AND INSTITUTIONS.

Agricultural Education Association.

Departement of Agriculture, Leeds University, Leeds.

Apis Club.

c/o Secretary, The Ways End, Foxton, Royston, Herts.

British Dairy Farmers Association.

17 Devonshire Street, London, W.1.

British Beekeepers Association.

c/o Secretary, 35 North Audley Street, London, S.W.1.

British Goat Society.

c/o Secretary, Roydon, Diss, Norfolk.

Central Landowners Association.

58 Victoria Street, London, S.W.1.

Country Gentlemen's Association Ltd.

Axtill House, Warwick Street, London, W.1.

Letchworth, Herts.

6 Commercial Street, St. Helier, Jersey, C.i.

64 Shipton Road, York.

C.G.A. House, 30 Melville Street, Edinburgh.

Hampton House, The Avenue, Twickenham, Middx.

Farmer's Club.

3 Whitehall Court, London, S.W.1.

National Farmers Union.

45 Bedford Square, London, W.C.1.

National Federation of Young Farmers Clubs.

55 Gower Street, London, W.C.1.

National Pig Breeder's Association.

Victoria House, Southampton Row, London, W.C.1.

National Utility Poultry Society.

c/o Hon. Secretary, West Moors, Dorset.

Property Owner's Protection Association.

c/o Secretary, Spencer House, 4 South Place, Finsbury,
London, E.C.2.

Royal Agricultural Society of England.

16 Bedford Square, London, W.C.1.

Royal Horticultural Society.

Vincent Square, London, S.W.1.

Women's Farm and Garden Association.

Corthauld House, Byng Place, London, W.C.1.

(c) EXPERIMENTAL AND RESEARCH STATIONS.**Horticultural Activities.**

The following deal with Vegetable and Fruit growing :—

East Malling Research Station, Kent.

Research Station, Long Ashton, Bristol.

Wye Agricultural College, Wye, Kent.

Seale/Hayne Agricultural College, Newton Abbot, Devon.

Reading University, Reading, Berks.

The Farm Institute, Bickton, East Budleigh.

Somerset Farm Institute, Cannington, Somerset.

East Anglian Agricultural Institute, Chelmsford, Essex.

Studley College, Studley, Warwickshire.

Herts. Agricultural Institute, Oaklands, St. Albans.

BEE RESEARCH.

In addition to other activities the Rothamsted Experimental Station, Harpenden, Herts, specialises in bee research work and the diagnosis of bee disease. In cases of suspected disease samples of bees, or comb, can be sent for examination.