

THE TRAINING AND
EMPLOYMENT OF
EDUCATED WOMEN
IN HORTICULTURE
AND AGRICULTURE

BY MRS. ROLAND WILKINS, O.B.E.

*(Reprinted from the "Journal of the Board of Agriculture" 1915)
Revised and brought up-to-date, 1927.*

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PREFACE.

IN 1915 an Enquiry was conducted on behalf of the Women's Farm and Garden Association for the purpose of ascertaining what openings existed for educated women to take up some form of agricultural or horticultural work as a profession.

The information given in the report was based entirely on the accumulated evidence collected from a large number of those who had been engaged in the profession for years. Personal visits were paid to 70 places where women were working holdings of their own; evidence was received from several hundred women in salaried posts by circularising them with forms. The report reproduced, without bias or prejudice, in a summarized form, the information and opinions given. It confined itself strictly to the experiences of the past and hazarded no opinions as to the possibilities of that future which conditions of war were beginning to open up.

Eleven years have now passed, years which have made history in the work of all classes of women on the land. A revision of the report has become necessary to bring it up to date. As regards the general conclusions relating to the desirability or otherwise of women taking up outdoor work as a profession it is astonishing to find, however, how little it is necessary to alter. The chief changes have been an improvement in the methods and opportunities for training, a more open outlook as regards women in the attitude of employers—and an increase in certain classes of posts such as those due to the new campaign for Clean Milk.

Although all figures, both as regards cost of training and wages received, have had to be revised, the relative value of the various posts, and the relation this bears to the cost of training, appear to be unchanged. Unchanged also are the conditions which make for success or failure when women set up for themselves. It has also been found possible to leave many of the accounts of places visited in 1915 as they are still illustrative of the types of holdings held since the war. As regards salaried posts the work at the registry of the W.F. & G.A. keeps the Association in touch with all classes of workers on the land and enables them to supply the knowledge which in 1915 had to be acquired by personal visits or circularised forms.

L. WILKINS,
Ellesmere.

April, 1927.

THE TRAINING OF EDUCATED WOMEN IN HORTICULTURE AND AGRICULTURE.

INTRODUCTION.

To what extent have educated women already taken up work on the land as a profession? In answering this question it is necessary to define very clearly what type of woman is under consideration.

Of the 94,000 females included in the 1911 census as employed in agriculture, 20,000 are under the heading "Farmers and Graziers," and 2,449 are classed as "Market Gardeners."*

The majority of these were the female relatives of farmers and market gardeners carrying on their husbands' or fathers' profession, in which they themselves had doubtless been brought up, and with which they had been associated all their lives. Although, in matters of education, numbers of them no doubt merge into the same class as the women under consideration, they do not come within the scope of the present enquiry, which deals with women who, after a secondary education of a superior type, wish to enter this profession from the outside.

It is probable that in all times there have been isolated cases of educated women who have struck out a line for themselves in this direction; but the definite entry of the professional woman into horticulture dates from the year 1892, when the foundation of Swanley and later Studley as separate Horticultural Colleges for women afforded opportunities for instruction in this branch of outdoor work. These colleges were, and are still, largely attended by town girls, and the profession has, undoubtedly, attracted a number of women who, although brought up in different surroundings, prefer an open air life, and find healthy and congenial work as gardeners, or, where capital is available, in setting up for

*In the 1921 Census the figures are 83,000, out of which 19,440 figure as "farmers," and 6,156 as "nurserymen," "florists," etc.

themselves on small holdings, market gardens, fruit farms, poultry farms, etc.

When we come to consider what educated women had taken up farming as a profession at this period we find that a certain number outside the farming class were farming on their own account. They were, however, few and far between, and still afforded an interesting topic of conversation in the neighbourhood where they lived, where they were pointed out as strong-minded women aping men, or regarded merely as cranks. As regards agricultural wage earners, there were practically none save the few who worked for the lady farmer. The demand for training was beginning, but could only be obtained on the farms of the women mentioned above and later at Studley. Since the war a greater number of educated women turned their thoughts towards the possibility of continuing the work learnt under the necessities of war on farms of their own or in salaried posts. The increased opportunities for training in practical agriculture, afforded by the admission of women to most of the agricultural training centres, is also turning out a new type of woman worker, viz., one trained in the care of live-stock and in farming operations.

The question it is desired to answer is: To what degree have they been successful, and how far are the results encouraging, or otherwise, to those who wish to adopt an outdoor career as a profession? Where can they train and what will this cost, and what prospects are there of employment afterwards? This report is an attempt to answer these questions.

It is divided into parts as follows:—

Part I.—HORTICULTURE. (a) *Training*: Where to train; length of training; cost. (b) *Results*. Being a survey of the work already accomplished by women.

Part 2.—AGRICULTURE. (a) *Training*. (b) *Prospects*.

Part 3.—GENERAL SUMMARY OF PROSPECTS.

PART I.

HORTICULTURE.

(a) TRAINING.

Whether a woman intends to seek a salaried post as gardener or to set up for herself in a commercial garden, she is entering into competition with men who have probably served their apprenticeship from the age of 14, and have had life-long experience in their profession. The average woman, if she be a complete novice, or even one who has gained some knowledge of gardening in the private garden of her own home, cannot hope in the course of a year or so to be as well qualified as the man who has been doing nothing else all his life. It does not necessarily follow that the educated woman must go through the same long years of apprenticeship to attain the same degree of success; a good, sound, general education and a quicker intelligence will compensate fully for a shorter apprenticeship in early life; but the fact remains that experience in the practical side must be attained through a course of years with varying seasons and varying conditions. The majority of men gardeners get their training in private or commercial gardens, either receiving a low wage as under-gardeners, or as improvers, or, in the case of commercial gardens, paying a premium and receiving a few shillings a week. They can also get instruction at the gardens of the Royal Horticultural Society, and at some of the institutions in connection with County Councils.

In the case of women, they were at one time practically debarred from gaining instruction in commercial gardens, where employers, as a rule, did not care to admit them. These circumstances were altered during the war when male labour was hard to get, but once men were again available there was a return to former conditions and it is only occasionally that women students are admitted, and then on payment of a large premium. The consideration of the horticultural training of women raises so many vexed questions that it is not proposed to enter into it here. One fact, which stands out clearly, is that it is not possible to provide all the kinds of instruction required in one institution. The

reasons which induce women to take up horticulture are very varied, and the institution which can provide a serious training of women for the colonies, for gardening posts at home, and for teachers in gardening may have to lower its standard of training if it is also to partake of the nature of a finishing school or sanatorium.

Where Training can be Obtained.—There are three types of training centres for women in horticulture, viz.:—

(A) Collegiate Institutions and County Council Centres.

(B) Gardening Schools.

(C) Various Private and Commercial Gardens run by ladies.

A. Collegiate Institutions and County Council Centres.—

The object of these institutions is to give a broad, general, horticultural education. Speaking generally, they have a definite staff of lecturers and demonstrators; the theoretical side, as taught in lectures, is as fully developed as the practical; waste, due to the spoiling of plants by the work of inexperienced students, is recognised as a necessary factor in practical instruction, and allowed for at the expense of the commercial side.

B. Gardening Schools.—These are of such a varied type that it seems almost impossible to put them together in one class, but, speaking very generally, they are, with one or two exceptions, carried out on a smaller scale than the Collegiate Institutions, both as regards staff and extent. The practical side predominates definitely over the theoretical; where the commercial aspect is a feature, it is less possible to allow students to spoil plants and fruit trees; and each school has its distinct characteristic, whether it be French gardening, colonial training, small holding cultivation, private gardening, nature study, or adaptation to the needs of delicate girls.

C. Private and Commercial Gardens run by Ladies.—There is a third type of training centre which merges so closely into some of the smaller institutions of the last category that it is difficult to draw the line between them. These are semi-commercial gardens on a small scale where pupils are taken. No doubt in many cases the advantages to pupil and employer are mutual, and endeavours are conscientiously made to allow the pupils to practise even though they may do a certain amount of damage. The fact remains, however, that the pupils are there fundamentally to help, by their fees, the financial side of the enterprise; in some cases the training obtained may be well adapted to the pupils' in-

dividual requirements, and therefore more suitable than that obtained in a regular institution; in other cases it may be merely a waste of time and money for a girl to be there.

Deciding where to Train.—In deciding, therefore, what training centre to attend, a girl should make herself thoroughly acquainted with the exact scope of each place, and consider what it will enable her to undertake at the end of her training. If she can give a definite answer to the following series of questions she will then be in a better position to decide what course of training it is best to adopt, and which place best provides for her individual requirements:—

- (1) What length of training can I afford?
- (2) Do I intend to try it for a short time to see whether I like it or not, or
- (3) Because I have been advised for reasons of health to lead an outdoor life?
- (4) Do I mean to take it up seriously as a profession by which to earn my living, or in order to supplement a small income?
- (5) In this case (4) is it absolutely essential that I should at once begin to earn my living on the completion of 1, 2, or 3 years' training?
- (6) Or shall I have enough to live on while gaining further experience as improver or under-gardener at a low wage?
- (7) Do I want to qualify as a gardener on a large private place, or go as companion gardener on a small place, or work on a commercial garden, or teach gardening?
- (8) Or do I, having a small capital or private income, hope to start an enterprise of my own?

Length of Training.—The regular courses of training provided at the larger institutions are from 1 to 3 years in length. It is not advisable to take a course of less than 2 years, but it is questionable whether, if a third year of training is possible, it is not best to take it at some other place, in order to obtain a more varied experience, not only in methods, but of soil and climatic conditions, or to specialise in some particular branch.

The larger part of the failures that have occurred in this profession are due to the fact that students are too apt at the end of a 2 or 3 years' training to think themselves qualified to take up any post that offers itself. Whether this attitude of mind is due to such a fault in the methods of the teaching that at the end of a course students are unaware of their inexperience, or whether it arises out of the mere optimism of youth, is an arguable point, but the tendency undoubtedly exists, and harm often results. Girls leave these institutions to compete largely with men who have had a life-long practical experience; they would be well advised, if they wish to qualify for the higher posts, to be content to widen

their experience and continue their training, by first obtaining posts in good gardens as improvers or under-gardeners at a low wage.

Age at which to Train.—It appears to be generally advocated that girls should not begin training too early; they are not as strong at 16 as they are likely to be a few years later, while there is difficulty in placing very young girls over men, or in finding them posts as under-gardeners. The loneliness of the life in many private establishments would also affect young girls more than older women. One woman who was a head-gardener at 20, with three under-gardeners, advises that the training should begin at 17, and the general opinion would confirm this as being the earliest desirable age; many put it as late as 20.

Cost of Training.—At the collegiate institutions inclusive fees are from £85 to £180 per annum. They vary according to the type of college and nature of the accommodation and the length of course.

The County Council Centres charge from 35s. to £2 10s. a week for board and tuition to non-residents in the county; Fees for instruction only are from £5 to £7 10s. the course.

Most of the schools charge from £100 to £120 inclusive for 3 terms of 13 or 14 weeks. Lower terms can often be arranged by girls sharing rooms. Some of the smaller places, taking a few pupils, charge from two guineas inclusive.

The lengths of the terms vary for the inclusive prices; some institutions have three regular terms; others give a month's holiday in the year at different times so that all the pupils are not away at once.

(b) RESULTS.

The question whether a girl, after training, starts on an enterprise of her own, or takes a salaried post appears to be mainly a question of capital. Those without private means, who have their living to earn, have of necessity to adopt the latter course; others, who have a small sum to invest, or whose parents are able to start them in a career, may set up for themselves. In most cases we find two women setting up together. A brief indication of the general results which have been obtained is given under the two headings "*Own Holdings*" and "*Salaried Posts*."

(i) **OWN HOLDINGS.**—In 1915 particulars were obtained of 43 women who had set up for themselves on horticultural holdings. Of the 43:—

- (i.) 18 had various forms of market or nursery gardens;
- (ii.) 8 had small holdings where gardening predominates;
- (iii.) 4 were carrying on the gardens at their homes on a commercial basis;
- (iv.) 3 had jobbing businesses (not connected with nurseries);
- (v.) 4 had private gardening schools (apart from those with a commercial aspect which are included under (i.));
- (vi.) 1 was specialising in seed growing;
- (vii.) 5 had given up owing to want of capital, or through not being successful for want of business habits. Four of these had small market gardens and one had a gardening school.

There were a considerable number of others who lived at home and sold the surplus stuff out of their private gardens, or saved the cost of keeping a gardener.

Market and Nursery Gardens.—This form of holding appears to be the one most generally adopted, but it varies considerably in type. In some the market side predominates, ranging from the growth of the ordinary market crops to specialisation in certain branches only; two women specialised in carnations, one in violets, one in flowers generally, and two went in very largely for French gardening. In others the holding might be worked more as a nursery, and here, again, it might be on general lines, or a special side such as hardy plants, might be developed. In several cases nurseries were combined with a jobbing business and landscape gardening. In others, pupils were taken in sufficiently large numbers to make it worth while developing the educational side, and they were carried on definitely as horticultural schools—where commercial as well as private gardening was taught.

It is not possible, in a short report of this nature, to describe the different types of cultivation adopted, and the technical methods practised. The varying degree of success appeared to bear less relation to the particular branch adopted than it did to the capacity of the person adopting it. It required common sense, experience, and a business mind to decide what branch was best suited to the given locality, or to choose a locality most suitable for the branch of horticulture to be adopted. For instance, one girl started growing chiefly flowers; but she found that in her neighbourhood there was a universal demand for vegetables, owing to the existence of a large number of houses with small gardens whose owners preferred keeping them as pleasure gardens, and buying vegetables; so she changed her methods to suit these conditions. Another started a market and nursery garden in a district where there was no room for general nursery work, and so took to specialising in certain varieties. Again, those who have not much capital to invest must not

choose a type of garden which requires a large amount of glass, or a locality in which the price of land is prohibitive.

Extent of Holdings, Rent, etc.—The bulk of the holdings were from 2 to 5 acres in extent. The smallest was 1 acre, and the largest 20 acres. The very small ones were in urban areas, where the price paid for land amounted to building site value; the chief business here would be the sale of hot-house plants, fruit, and cut flowers, and there would be a corresponding amount of glass. The larger holdings were in country districts where land is cheaper, and the cultivation would include more vegetables and fruit.

In quite a number of cases the freehold had been acquired, and sums varying from £85 to £500 an acre paid for it. Where the land was leased the rent was from £1 10s. to £5 an acre. In nearly every case the price paid was for a bare field.

Disposal of Produce.—This was nearly always largely on local or private lines. Only those who specialised in particular varieties, or who grew any one crop on an extensive scale, appeared to use Covent Garden and the other wholesale markets to any extent. It was this business side which appeared to be often the stumbling-block. The growing might present no difficulties; but the right thing to grow, and how best to dispose of it, was the chief problem, and that in which mistakes at the outset were most often made.

Capital Invested.—A considerable number of holdings have been started with a capital of from £200 to £300, and their owners are living partly on small private incomes. The highest amount in the figures supplied during the investigation was £1,950, but several successful women had started with from £500 to £1,200, and one or two are now making an entire living. Some figures were supplied in answer to a request to be informed of the initial cost of starting in individual cases, and may be useful in giving an idea of the nature of these expenses before the war:—

	£	s.	d.
A.— $8\frac{1}{2}$ acres of land	297	10	0
Fencing	60	0	0
200 ft. run of glass houses (heated)	342	0	0
100 ft. frames (heated)			
100 ,, (cold).. .. .			
2 tool and packing sheds	500	0	0
Expenses of first two years (largely stock) about..	500	0	0
	<u>£1,199</u>	<u>10</u>	<u>0</u>

The third year the profit was approximately £50 exclusive of living expenses, and apart from the fact that the place was growing in value as the fruit trees developed, etc.

	£
B.—Land and House	1,050
3 glass houses, 75 ft. × 12 ft... .. .	350
1 glass house, 35 ft. × 20 ft.	
Sheds and other sundries	50
Working expenses	500
	<u>£1,950</u>

During the first two years the produce sold amounted to £335, and the stock on hand at the end of the second year represented a value of £849; wages, coal, stock bought, etc., during this time amounted to £628.

Examples.—The following are examples of some of the enterprises:—“X” and her sisters started a nursery business near a town on the South Coast with £1,000 capital. One sister was trained and able to teach the other two. With a four-acre field to entirely lay out after two years they made it pay sufficiently to keep themselves entirely with the help of a dress allowance. After 14 years 250ft. of glass had been erected at a cost of £420 of which only about £120 came out of capital.

The business was started as a market garden, but after a few years several students were taken and the land worked on the lines of a Nursery Garden besides that which was required for instructional purposes. Landscape work was undertaken and also Florist work. In 1915 the business was entirely moved to another county, owing to the great demand for land workers and the necessity of training more girls. A house was taken to accommodate 25 students. The home farm was used for instruction and to supply the household with produce. The gardens included a walled fruit garden, delightful pleasure grounds and 200 ft. of heated greenhouses. A stall was soon built in the town market hall and large quantities of flowers, fruit and eggs were sold. A florist was employed regularly.

The place is now run to train students in Agriculture and Horticulture and supply the market stall with flowers, tomatoes and eggs.

“Y” had two years’ training at a gardening school, and spent one year as improver and marketer. She and her sister then started on a bare acre of land near a small country town in the southern counties. They had been going 5 years, and possessed two fair-sized glass houses, two sheds, about 200 cloches, frames, and garden lights. Half an acre was planted with apples, black currants, and strawberries, and quarter of an acre devoted to bulbs. They had a few herbaceous plants, and went in largely for rock plants. Under glass they grew chiefly chrysanthemums, tomatoes, and violets.

As the only available capital at the outset was £140, all the stock had been built up out of the actual proceeds of the holding itself during the 5 years, and represented at that time a capital value of £600. Board and lodging during this period were provided in return for the care of a smaller private garden adjoining, and the supply of vegetables to a private house. As regards disposal of produce, the chrysanthemums were sold retail locally, and wholesale in a neighbouring town. The tomatoes, of which about 1 ton were grown annually were sold in local shops. A good private connection had been built up for violets, which did exceedingly well, and of which over 1,000 a day had been picked. The labour had been done almost entirely by the sisters, with the help of one or two occasional students.

Amount of Success achieved.—It must be remembered that nearly all these undertakings were the outcome of a training which had only been instituted some 13 years previously; very few had been going for more than 7 or 8 years, and a great many only 4 or 5. In almost every case the garden had been made from a bare field, and the initial capital invested had been high, especially where much glass had been put up. It takes at least three years before the land is fully developed and a connection is established, and it may be much longer with bad seasons, or initial mistakes on the business side.

It is difficult to define precisely the amount of success which had been attained; it is putting it at its highest to say that some were making a living, but not many were making money. The majority were supplementing a small income. At one end of the scale we found a woman, starting with £1,000, who, after 23 years, had trebled the capital entirely out of the proceeds of the holding, and was making a profit on it of 11 per cent. At the other end we found women giving up after two or three years, owing to their having started with insufficient experience and too little capital, the consequence often being a breakdown from over-work and worry. Between these two extremes we found women who had attained varying degrees of success.

Causes of Success.—The opinions collected, either from personal visits or by correspondence, were unanimous in regard to the general causes of success and failure. The successes were stated to be due to (1) good health, or (2) good business capacity, or (3) sufficiency of capital, or (4) a thorough training on the practical side. The writer says

“or” advisedly, for there have been successes when possibly only one or two of these factors exist—*e.g.*, one of the most successful enterprises was run by a woman who was extremely delicate and unfitted for hard work before taking to an outdoor life, but who has succeeded with a small capital through sheer business capacity. Another very successful woman had had no training, but was strong and business-like, and lucky in her employees; a good foreman, coupled with her own individual capacity, compensated for her initial lack of knowledge. Many people rely too much on the fact that they have been trained, and do not realise that training does not altogether make up for want of common sense and business habits.

Causes of Failure.—The failures were all due to very definite causes, viz.:—

1. *Insufficiency of capital*, resulting in not being able to withstand a few bad seasons; in not putting sufficient labour into the land; and in trying to live on the business the first few years before a business connection was established.
2. *Insufficient experience*, a start being made directly after a college training before gaining further experience in the branch of horticulture to be taken up.
3. *Breakdown in health*, which has often been an outcome of the first two causes.

Small Holdings of the Gardening Type.—Under this heading have been classed holdings where poultry and bee-keeping are carried on, although gardening may still predominate, especially as regards fruit. The holdings are, as a rule, of a larger acreage than those cultivated solely as gardens, and consist, to some extent, of grass land or grass orchard. Sometimes goats and pigs are added, and perhaps a cow or two, and it becomes more of an agricultural undertaking.

The writer has been much more struck with the possibilities of this type of holding as a suitable occupation for women where capital is limited, than with the purely horticultural type. As the majority show an agricultural bias they will be considered under “Small Holdings,” in the second part of the report, which deals with the agricultural side.

Jobbing Gardening.—Information was collected from 28 women who were engaged in jobbing gardening in different parts of the country.

Of these, 3 carried it on in connection with their own nursery gardens, and employed men whom they sent out to do the heavier work. They did not make much profit on the men's work, but considered the advantage of combining jobbing with a nursery lay in the advertisement it brought to the latter.

In another case two women ran a very small nursery together, and employed another woman, and they all three went out jobbing at 5s. a day. In and near London those with jobbing businesses employ men and other women, and work themselves, getting their plants from outside nurseries at trade prices. The high price of land would prevent them from having their own nursery unless the business was on a large scale and a large amount of capital was available. Most of the women jobbers in country towns merely work themselves, without employing other labour.

The disadvantages appear to be chiefly the question of remuneration. It is not considered possible to live entirely on the pay; although the maximum when starting (in London) may amount to £3 a week for skilled work, the average pay for the ordinary worker is £2 5s. a week. This will be discounted by many blank days, especially in winter, when it is too wet to work. It is, therefore, only suitable for a woman who has her home behind her, or a supplementary income. If she is dependent on the business, a woman has also to be very strong, so as to be able to fulfil her engagements, and not lose days, or disappoint employers owing to ill-health.

The general opinion appears to be that there is an opening in jobbing, at any rate in the London district. The women are competing with men who get from 7s. 6d. to 10s. a day, but whose standard is often low, and does not amount to much more than sweeping paths and mowing, whereas the woman jobber always tries to keep the garden bright with flowers. Several women workers advised employing men to do the rougher work, for they did it more quickly and thoroughly, while it paid the woman to devote herself to the floral work, the care of fruit trees, etc.

A few women in the more rural districts had very small gardens, and jobbed, or did landscape gardening as supplementary work.

A summary of the opinions collected suggests that the advantages of jobbing are the following: That one is more independent than a gardener on a private place; it is a less lonely life, one works daily for different employers, and

seems to have more intercourse with them. It is a suitable employment for girls living at home, especially if they are not very strong, and need only a supplementary occupation; in this case they need only arrange for as many days a week as they care about, and if they charge by the hour they need not overtax their strength by working long hours, or do inferior work owing to fatigue.

One woman has made a success of doing a sort of consultant jobbing; she advises girls taking up jobbing to do so as a stepping stone to this, and make themselves proficient in special branches such as fruit work, rose culture, and herbaceous plants. People were very often glad of advice in different subjects, and would pay from 15s. to £1 a day for it.

Landscape Gardening.—This is often undertaken locally by the women who have nurseries; but there are cases where women specialize as landscape gardeners either in connection with firms devoted to garden architecture or privately. A lady spent much of her time going to distant places to undertake the laying out of new gardens, or the adaptation of old ones, and made a speciality of garden design.

The following figures were given before the war in connection with the pay received by landscape gardeners at different times: 10 per cent. on jobs of which the contract price is up to £250, and 5 per cent. after that; 30s. a week, board, lodging, and fares; £2 2s. a week, and fares. At the present time these figures are somewhat higher; but as the scale of pay depends entirely on the nature of the work it is not possible to give exact particulars.

Gardening Schools.—A certain number of women who have had horticultural training have started gardening schools, and a few have been very successful, both financially and in the good training they impart. Others, however, may be keeping a financially unsound business going on pupils' labour and pupils' fees—with doubtful benefit to the pupils.

The writer is at the moment regarding schools from the standpoint of an opening as a profession for women, and, therefore, feels bound to state that there is a strong feeling against women setting up more schools at the end of a college training.

There are already schools which owe their origin to considerations other than the horticultural education of

women. A limited number of these may be useful if they cater definitely for the woman who is not taking up horticulture seriously as a profession, but who desires an occupation on outdoor lines. Such are, for instance, institutions of another kind which have a large garden, and have adopted this method of turning surplus resources to good account.

Small schools with inadequate teaching facilities run a greater risk than the larger ones of turning out women seeking posts as gardeners who have not had sufficient training, and who tend to lower the reputation for efficiency amongst women gardeners generally.

Specialists.—No evidence has been received to show whether many women have attempted specialising in one branch. In the single instance which came under notice, the result was very encouraging. The lady in question had become interested in the Mendelian theory, and started experiments in sweet peas. She had begun on one acre 12 years previous to the date of our visit and had gradually built up a large seed business on 14 acres of land, with rows of sweet peas totalling over 10 miles in length. At first all the seeds were sold direct to the public, and in course of time a large connection was formed; now, however, they are all disposed of through one firm; this means that the winter months are practically a free time from work. No doubt such successful results would not be obtained by all, but there must be other women capable of following the above example.

(ii) **SALARIED POSTS.**—For a woman who has had a training in gardening, the choice in posts is not very great. Commercial gardens do not afford openings to women workers to any extent, and, therefore, posts as gardeners are practically confined to those offered by private establishments or educational and other institutions. They can be divided into Head-Gardeners, Single handed Gardeners, Companion-Gardeners, Under-Gardeners or Improvers, Teachers of Gardening in Schools or Institutions, and Jobbing Assistants.

Head Gardeners and Single-handed Gardeners.—“Head-gardener,” left unqualified, is an ambiguous term. It may mean the person who controls a big establishment with a considerable amount of glass, and a large number of under-gardeners; or it may be merely the person in charge of a smaller garden, with the help of a man or boy, and no glass beyond perhaps a vinery and a greenhouse for bedding plants

and tomatoes.* Some idea of the relative numbers thus employed in 1915 is given by the following figures. Out of 71 cases investigated:—

11 were single-handed.
38 had 1 or 2 assistant under them.
16 ,, 3 or 4 ,, ,,
6 ,, 5 to 9 ,, ,,

In 12 cases, one of the under-gardeners was a woman.

The following statistics were compiled from records of nearly 100 cases of trained women holding posts as head-gardeners or single-handed gardeners in 1915.

Length of College Training.

Less than 1 year	2 per cent.
1 to 2 years	21 ,,
2 to 3 years	55 ,,
3 years	21 ,,

Salaries

31 per cent. received from £52 to £70.
46 ,, ,, £70 to £90.
12 ,, ,, £90 to £100.
11 ,, ,, over £100.

The following table shows the wages received up to 1914 after a given number of years' experience, whether this was obtained as under-gardener, or in previous posts as head-gardener:—

<i>Length of Experience.</i>		<i>Average Salary.</i>
Under 3 years' experience, average salary .. .. .	.. .. .	†£80
3 years' experience, average salary .. .. .	.. .. .	75 5s.
4 ,, ,, ,, .. .. .	.. .. .	78
7 ,, ,, ,, .. .. .	.. .. .	91 10s.
10 ,, ,, ,, .. .. .	.. .. .	87 10s.
Over 10 years ,, ,, .. .. .	.. .. .	90

The figures bring out one point very clearly, viz., that the average salary received after 10 year's hard work and an expensive training is not such as to attract anybody to this profession on purely financial grounds; and that a love of the work and the desire for an open-air life must be the impelling motives. Other figures show the extraordinarily short time most girls seem to stay in their posts; 53 per cent. stayed one year and under; and only 10 per cent. stayed over 5 years. No explanation is given of this.

Since the above review of the financial position was written conditions have not materially changed. Wages

* So as to differentiate between them in the Employment Registry of the W.F. & G.A. we now call the latter type “single handed gardeners” even if a little regular help is given.

† This high figure is due to the large salaries received at once on finishing training in 1914 owing to the demand created by the war.

for head-gardeners are now about £3 a week with a cottage and the usual allowances; or from 27s. to 40s. a week living in. Single-handed gardeners get from 35s. to 50s., or when living in, from 20s. to 35s. according to experience. But the rise in cost of living affecting as it does both the cost of training and the value of wages, leaves the relative positions about the same.

A very large amount of written evidence has been received from ladies employed as gardeners; it contains many results of experience and much useful criticism, which may be summarised as follows:—

The Drawbacks to the Profession.—The salaries received are low compared with the expense of training, which cannot now be much under £120 a year. They only afford a living wage to young, strong women, with little margin out of which to save for illness or old age.

The hours may be somewhat longer than in many other professions, especially where there is stoking and watering to be done. The introduction of an 8 hour day however has effected an improvement.

The holidays are very short, at best a fortnight in the year, and have to be taken at a time which is convenient in the gardening season.

There is a difficulty in obtaining posts for very young girls.

Previous to the war the loneliness of the life was very great. Employers were seldom seen, and there were only the other gardeners to talk to. This, however, is a feature which has largely disappeared though the opening up of country districts by motor traffic and the establishment of Women's Institutes.

Causes of Failures.—The following are extracts taken from the evidence received under this heading:—

- “Too little responsibility when training.”
- “Taking posts without due consideration of their suitability.”
- “Through unwittingly undertaking too much.”
- “Want of experience in direction of labour before undertaking a responsible post.”
- “Not working long enough as under-gardener.”
- “Too inexperienced when extra work was thrust on me owing to a reduced staff.”
- “Taking a single-handed place when I had not got the physical strength for it.”
- “Taking a head post when lacking in tact with men and deficient in organising power.”
- “Ill health; delicate women should go as companion-gardeners where the hours are more optional.”

A woman cannot compete with a man in strength, so that, to be as profitable to her employers, she must make up

for it in being more methodical, enterprising and intelligent. She should learn how to do the heavy work so as to know how to direct it, but should not undertake it herself unless the soil is very light. A woman saves where she does the pruning, sowing of seeds, potting, or undertakes work under glass. The work in stove houses, forcing work, etc., is very trying, and if a woman knows she cannot stand it she had better take a post where there is only the ordinary vinery and greenhouse for bedding plants and tomatoes. She should remember that a good training is of no use without experience; and that for posts in large places experience should include upkeep, routine work, labour and the general organisation of a large private establishment. The head-gardener is responsible not only for carrying out her employer's orders properly, but for tools, plants, hours of work of the men, and ordinary routine work. She must possess tact and strength, for she is (a) working head-gardener, (b) overseer, and (c) a woman.

Under-Gardeners and Improvers.—Before taking a place as head or single-handed gardener, a woman, even if she has spent one or two years at a training centre, would be well advised to gain wider experience by taking a post as under-gardener or improver, under a good head-gardener.

From the statistics collected it would appear, however, that more than half the women leaving college have gone straight into posts as single-handed gardeners.

This circumstance, undesirable from the point of view of efficiency, may be partly due to the fact that posts for women under-gardeners are very limited compared with the higher posts. This scarcity of lower posts is easily explained: employers who keep a small staff naturally prefer to have a man to do the heavy work since he can do such work quicker and better than most women. In old days also there seemed to be a prejudice amongst men head-gardeners against having women under them; many did not care to give orders to a lady, and felt uncomfortable at having them always about; or it caused discontent among the other men. There appears, however, to have been a change in this feeling since the war, and many head-gardeners seem now to prefer having women under them owing to their greater reliability. The housing question is still a difficulty; a man can lodge anywhere and his meals are no trouble, whereas a lady must have special arrangements made for her.

It may be as well at this point to answer the question so often raised: “Can women dig and do the heavier work which falls to the lot of the under gardener?” The answer is “yes”;

they do trenching, barrowing, mowing and watering as part of their training, and many think nothing of doing this work in their subsequent posts. Whether they should all do so is a different question. The average man would probably accomplish it quicker and better than the average woman, and at a lower cost. The general opinion is that there is plenty of work to do in a garden which a woman can do as well as, or better than, the average gardener, and that it is uneconomical to give her labourer's work to do, even when she is willing and able to undertake it; in many cases a woman is not strong enough to do a great deal of it.

As under-gardening can only be looked upon as a continuance of training, women should endeavour to go only to places where there will be a prospect of gaining experience in the higher branches. Posts for women as under-gardeners are limited however, and a girl who is obliged to earn her living immediately after training, is often obliged to take any post which offers itself. The Wages received are from 25s. to 30s. a week, or when living in, from 15s. to £1.

Companion-Gardeners.—There are a certain number of women occupying posts as "companion-gardeners." The hours are more optional, and gardening may be supplemented by household duties or secretarial work.

Jobbing-Assistants.—Under this heading come those who work for jobbing gardeners; the only instances met with are of women employed by the few ladies who have jobbing businesses. The pay seems to vary from 40s. to 50s. a week according to experience.

Teachers of Gardening.—The few big teaching institutions for women in horticulture have some women on the staff, but mostly employ men-instructors and foremen. Most of the posts for teachers in gardening are at girls' schools and sundry benevolent institutions, where the lady gardener combines supervision of the garden with teaching gardening to the girls or inmates.

The greater number of these posts are residential, the pay being from £70 to £150—the latter figure representing the maximum for a very limited number of the best posts. A certain number receive salary only, for part-time work; the nature of this and the amounts paid vary considerably. For the higher posts connected with schools the teachers are paid according to the Burnham scale for teachers in secondary schools. As example of the actual pay received at the present time in connection with various institutions or organ-

isations, the following figures are given: For 2 hours 4 times a week in summer £1 to £1 5s. a week; for 4½ days a week, £120 a year.

Apart from a knowledge of gardening, there appear to be certain qualifications necessary for the successful teaching of this subject to children and girls; given these, namely, a love of the work, an aptitude for teaching, and great patience and perseverance, the profession is stated to be most suitable for women and one for which they are better fitted than men. The women are not here entering into competition with men; there is less manual work to do, a man being usually provided for this; it is a less lonely life for women than when they are employed in private gardens.

The general opinion is that more and more girls' schools are developing this side, and that there is a decided opening for properly qualified gardening teachers. At the same time women really suitable for it appear to be few. It is to encourage this type and to meet the much neglected question of training teachers that Swanley recently instituted its special teaching course. It is now possible for students who have passed the London Matriculation examination to take a four years Degree Course at this college, designed to fit them for posts in connection with educational establishments or for organising and lecture work in Horticulture under Public Authorities.

PART II.

AGRICULTURE.

THE term Agriculture is often used rightly or wrongly to embrace, in a general way, those subsidiary branches of the profession which are chiefly taken up by women and which are not technically actual farming. It will be advantageous to make this point clear at the outset, for it is the vague and loose terms used in this connection which cause a good deal of confusion in popular ideas as to the training of, and the openings for, women in agriculture.

By a "practical training in agriculture," do we mean a training which will enable women to run farms of their own, or take salaried posts as farm hands or farm bailiffs? Or do we merely mean such training as is necessary for workers in those branches of agriculture which are commonly associated with women's work on farms, and rather loosely included under the heading of agricultural work, viz., dairying and poultry keeping? As the training and openings in these branches differ in extent and character it is proposed to consider them under the following heads:—A, Farming; B, Dairy Work; C, Poultry Work.

The subjects of co-operative farming for women, and agricultural openings for women in the Colonies, will also be briefly alluded to.

A.—Farming.

(a) TRAINING.—Before the war there was no institution for women corresponding to the agricultural colleges for men where a combination of practical and technical instruction can be obtained; neither were women admitted to the men's colleges. The nearest approach to such an institution was the Horticultural College at Studley, where an agricultural side had been added some years before the war.

As regards the theoretical side, however, as taught in the various universities, the lectures were open to women as well as to men. Women availed themselves of these

opportunities in very few cases, and rarely took a degree course. The men attending these lectures had learnt the practical side on a farm, either at their own homes or as pupils. It was less easy for a woman to pursue this course unless she was of the farming class, and obtained her practical knowledge at home. Either, farmers were averse to taking women pupils, or parents did not care to let their young daughters go as pupils on a farm when they would not hesitate to send them to a collegiate institution.

Where, then, could practical instruction be obtained? When one examined the so-called agricultural training given at various institutions the following facts were evident: (1) The training resolved itself solely into the teaching of butter and cheese-making, the care of poultry being occasionally added; (2) the agricultural instruction was purely lecture work; (3) the farm attached to the institution was used for demonstration purposes only, and, beyond milking, women took no part in technical operations. There was an indication however, after the outbreak of war, that several of the institutions were realising the need of practical instruction for women. For instance, the Midland Agricultural and Dairy College, at Kingston, Derby,* which up till then had provided only systematic courses in dairying and poultry-keeping, decided to provide a special course in agriculture which would include instruction in field operations.

All these conditions are now completely changed. Nearly all the institutions giving instruction in practical agriculture have thrown open their doors to women either for the whole curriculum or by means of special classes.

As in the training for Horticulture there are the three types of Training Centres, viz.:

- (a) The Collegiate Institutions and County Council Centres.
- (b) Private Agricultural Colleges for Women.
- (c) Private Farms run by ladies who take in a few pupils.

The cost of training and conditions of work are much the same as those already given for Horticulture.

A full list of the Collegiate and County Council centres are given in Leaflet No. 197 of the Ministry of Agriculture. Particulars as to suitable private establishments for the various types of workers can be obtained at the Office of the W.F. & G.A.

(b) OPENINGS IN AGRICULTURE.—If we considered solely

*Now at Sutton Bonnington, Loughborough.

what women had done in agriculture before the war as a result of training we should find ourselves practically confined to their work in poultry-keeping and dairying. In horticulture women set up commercial gardens as an outcome of their training; but as training in agriculture was practically non-existent, we find that the women who were farming, and there were 20,000 of them in the census of 1911, belonged with few exceptions, to the farming class, and had been brought up to the work, or brought into it by marrying farmers. Amongst the more well-to-do their education and mode of life are of the same standard as those of other professional classes. In horticulture no such established race of women gardeners of a higher class originally existed, and the women who received a training and subsequently set up commercial gardens were pioneers in the movement. In agriculture, where this is not the case, it is more difficult, in collecting statistics and information, to confine oneself entirely to the experiences of women, who, without the previous knowledge gained in home training, have taken to agriculture as a profession. The lady farmers whom I came across during the investigation in 1915 had in the majority of cases, turned out to be of farming stock, or to have been intimately connected with agriculture all their lives, either as daughters of country clergymen or of small landowners. To consider the question in the light of their experiences would merely end in a discussion as to whether farming pays or not, which in agricultural circles resolves itself into a question of individual capacity, whether of man or woman.

What we want to know is: What prospect is there for an educated woman, if trained in agricultural work, to earn her living or supplement a small income, whether by running a farm or taking some form of salaried work? The result of my pre-war investigations showed that there did exist a few women who, without previous training (or even knowledge), had taken to farming for the sake of an outdoor life, and managed to supplement small incomes; no case, however, was found where an entire living was being earned.

Such women, however, were not sufficient in number to enable one to give definite and reliable statistics as to the possibilities for other women. They had started farming because they had an aptitude and liking for the work, or because they wished to live an outdoor life, and were of the exceptional type who would make a success of anything. All that one could do was to give instances of the most typical cases, to indicate results which had actually been

achieved. As the question was being examined from the point of view of a possible profession for women with very small incomes or little available capital, no undertakings were considered which involved above £1,000 capital. This excluded all farms above 100 acres. The women who were farming on a larger scale than this had business capacity, and a good stockman or competent working bailiff to guide them at the start in technical matters; in a few years an intelligent woman learns a good deal in this way, and gains experience as she goes along.

Farming on a small scale is rather different. Unlike the business head of a big undertaking who is concerned chiefly with administrative duties, a small farmer must do a large proportion of the practical work, and should possess a correspondingly greater capacity for, and a knowledge of, actual technical operations. Moreover, mismanagement, combined with a few bad seasons in succession, could easily cause the loss of the whole capital. Broadly, there are two types of small holdings, according to whether the horticultural or the agricultural side predominates, but as they often merge one into the other it is proposed to include under this heading small holdings of a gardening type, kept by persons who have received a horticultural training.

There are, first, the purely agricultural holdings (small farms of from 25 to 100 acres) and, secondly, holdings of from 3 to 20 acres, entirely under garden and fruit cultivation, with the addition of poultry and bees. Between these there range holdings on which several types of work are undertaken; it may be that gardening and fruit growing have been added to an essentially agricultural holding, or that cows and pigs have been added by degrees to what was originally started as a garden enterprise, and a certain amount of the land has been given over to produce food for the live stock.

Small Farms.—Small arable holdings are not very suitable for women; the work is hard enough for a man whose standard of living is lower, and who can do most of the work himself while his wife keeps house. A woman would have to farm on a scale large enough to allow for the employment of a man, and this would involve also relatively more capital than a grass holding of the same size.

On the other hand, there is not much on a grass holding that a woman cannot manage with occasional help. Hay-making and any small amount of arable cultivation can be done by contract. Moreover, since the outbreak of war, many women who had been in the habit of managing in this

way found, when they could not get labour for harvest work, that, once the crops were cut for them, they could do the carting and stacking without help.

Small Mixed Holdings.—The facts appears to show that small mixed holdings of the gardening type are more suitable for two women working together than those that are exclusively agricultural or horticultural. The reasons are as follows:—

- (1) The initial capital outlay is relatively less compared with the returns;
- (2) It is more possible to increase gradually the area under cultivation and add to the head of stock without much additional outlay in cash;
- (3) The risk is not so great where a large amount of capital has not been sunk, as there is less dependence on one class of produce, and a bad season has not such a completely crippling effect;
- (4) It is possible to carry on this type of holding in more remote places that is the case with, say, a highly developed type of market garden, and for this reason the land and cost of additional labour are proportionately cheaper.

There are, of course, many pitfalls to be avoided. One holding of this type was barely paying its way after 3 or 4 years because questions of soil, climate, and nearness to market had not been thoroughly considered beforehand. The soil was too cold and heavy both for successful poultry-rearing and for producing early crops; the farm was in a district where successful local marketing depended on the earliness of the produce; and the distance from railway facilities prevented the profitable use of distant markets. On the other hand, one of the most successful holdings met with was equally remote from markets, with a poor soil, but the soil was easily worked in all seasons, and labour cost less; at the same time, it was drier, and, therefore, more suitable for poultry, while a profitable system of purchase by local dealers, and a good carrier service compensated for the distance from markets.

In the following examples visited in 1915, No. 1 is that of a farm on which corn growing was combined with dairying, on a large enough scale to employ a man all the year round; No. 2 is a dairy holding combined with a market garden; No. 3 began as a poultry farm and market garden, and has grown by degrees to comprise a little dairy holding as well; No. 4 was started as a market garden, and now includes poultry, pigs, and goats.

(1) Miss G. and her friend have a farm of 65 acres in a corn-growing district of the Eastern Counties. They bought the land and buildings 4 years ago in a very neglected condition, and are slowly getting the land into better order. At the time of my visit they had three fields of autumn-

sown wheat, a clover field and 5 pasture fields. Oats had just been sown, a mixture of tares and black oats was then being sown, and one piece of ground was being prepared for roots. The stock consisted of 7 Jersey cows, a Jersey bull, 3 heifers, 4 calves, 3 light horses, 1 pony, 1 heavy cross-bred mare, and a few fowls, but no pigs. They had kept a good number of bees, but these were now suffering from the Isle of Wight disease. The butter is sold to private customers and the corn marketed. The two women work themselves, and employ a man and a girl assistant. Neither of the women had received any special training, and both had come from London. Miss G., however, is very strong, and had a little experience on a home farm before starting farming herself.

They started gradually on capital which came out of the savings of a very small income; this they invested profitably in stock and implements, and increased its value by their own hard work. They consider that, at the present rate of progress, the farm will very soon be supporting them.

(2) Miss W. has a holding of 27 acres two miles from a residential town in a western county. About 4 acres are under ordinary market-garden crops, and the rest under grass in three fields. She keeps 6 cows, a pony, 5 breeding sows and about 60 head of barn-door fowls. She has a retail milk business, and also supplies greengrocers' shops in the neighbouring town. She takes the vegetable produce out herself in a car, and employs a boy to drive the milk cart. Further labour is supplied by a cowman and one old man, and the occasional employment of a woman. Miss W. considered that if women had business heads and worked themselves there was no reason why they could not make a living, but had a poor opinion of those of whom she had had experience. She had had no particular training, but had been brought up at a country parsonage and had always been used to animals and country life.

(3) Two sisters have a small holding of 9 acres which they started 5 years ago on a capital of £50, their rent and living being provided for them. They invested this £50 entirely in poultry, buying two pens (one of which was of exhibition birds) and the necessary appliances. Out of this they practically built up their present stock of poultry, increasing their hatching each year up to 1,200 chicks. In addition, and entirely out of the proceeds of the initial £50, one goat was purchased and three reared, these having since been replaced by two cows. Butter is made and sold privately in the neighbourhood, and as people are now beginning to come to the sisters for milk, a third cow has recently been acquired. Two bull calves are bought in the market at a few days old to utilise the separated milk, and are kept till 7 or 8 weeks old, when they are marketed and two fresh ones are bought. The chickens are sold to the local poulterers and private customers and the eggs to an egg-collecting depot. Of the 9 acres, 8 are under grass in three fields, one of 4 acres being let off to be acquired when needed for young stock. One acre is under garden cultivation, being planted with apples, plums, cherries and bush fruit. Vegetables are grown rather than flowers as there is a better sale for them locally. The bush fruit is bought by a local jam factory; surplus vegetables are sent to a shop in the village, and the local grocers take all the tomatoes. The two ladies do practically all the work themselves. They had lived in a town until they started on the holding and, beyond keeping a few hens in a garden for the egg supply of the house, had had no training. One has since taken her first class certificate for butter-making at a county council dairy class, and the other spent three weeks on a poultry farm and has taught herself to milk the goats and then the cows. What they did not know they have learnt from books and from experience and observation.

They were of opinion that if they had lived in a cottage at a low rent on their present holding, and not in a small, highly-rented house, they

might be able to earn their living entirely from their work. The work, however, is very hard, and they did not think many women would stick to it as they had done.

(4) "A" has a holding of 23 acres attached to a small farmhouse. She sub-lets 12 acres, and has about 4 or 5 acres of grass land; the remainder is cultivated as a market garden and used for poultry runs. She keeps 10 goats, 300 to 400 head of poultry, breeding-sows and pigs, a pony, and 12 hives of bees. Of the garden land about 2 acres have been newly planted with apples, raspberries, and black currants, with potatoes and bulbs between the rows. Potatoes and vegetables are grown on the wired-in patches, which are used in alternate years as fowl runs, and in the original garden of the farmhouse. There is one cold-house and a good many frames. The goats' milk, and the butter made from it, are consumed in the house. Otherwise, except for some private London customers, all the produce is sold retail, chiefly to boarding houses in a neighbouring holiday resort; for this purpose a van and pony are kept and a lady is employed to drive it; the same lady has also charge of the goats. The produce sold in this way consists of vegetables, fruit, jam, cut flowers, eggs, chickens, honey and beeswax. One man is employed regularly to do the heavy work, and, besides the lady who drives the van, two other ladies attend to the poultry and garden with the help of "A" and a friend.

This holding was started 8 years ago by renting the house with 5 acres of land at £30. "A" had £300 capital, out of which she had to live and supply equipment. She went on developing every year, and finding she could not do this and plant fruit satisfactorily under her lease, she finally bought the 23 acres, partly by means of gifts and partly by means of a loan on which she pays interest—sub-letting about half of the land until she is in a position to cultivate it all.

It is interesting to note that, while poultry was the means of building up holding No. 3, "A" is of opinion that poultry is less profitable than the other branches of her work. She considered bees very profitable—until they got the Isle of Wight disease—and last year sold 400 lb. of honey. There was relatively far less work with them for the same amount of profit, than in the other branches.

Another point is that she is in a remote spot 6 miles from a station or town of any size, and that the soil is poor and sandy. In spite of these drawbacks she is able to make the place pay, and, beyond taking in pupils who want light work on account of health, has no other source of income.

As regards previous knowledge "A" had had a short training at two horticultural centres, and had held gardening posts for some years subsequently before starting on her own account; the women she employed had also received previous training.

Salaried Posts in Farming.—Until the outbreak of war posts of this type hardly existed. I only came across two women farm-bailiffs, excluding a certain number who supervised home farms as a family arrangement. Lady farmers occasionally employed other women to look after stock and help generally. During the war large numbers of women were employed on farms, and the farmer discovered their merits in the handling of stock. A definite demand now exists for women as stockwomen on dairy farms. Their duties are to milk the cows, drive the milk cart, feed the cows and calves, and fill up their time doing odd jobs. The pay is based on the county rates which vary from 35s. to 40s. living out, and from 15s. to 30s. living in.

B.—Dairy Work.

(a) **TRAINING.**—The training of women in dairy work is the only branch of agricultural education which up to quite recent times has been systematically carried out on public lines. Most of the county councils provide fixed or travelling courses of instruction in either butter or cheese-making, or in both. Some include teaching in calf-rearing, and the management of milk, and most of them comprise lectures on this subject and on the selection and feeding of dairy cattle. Anyone resident in such counties can obtain, either free or at a nominal expense, sufficient teaching in a few weeks to learn the rudiments of dairy work. For those wishing to pursue a longer course there are larger centres where a thorough training in all branches can be secured at reasonable fees, and for which scholarships are obtainable. The object of these centres is chiefly to improve the knowledge of farmers' daughters in farm domestic economy, and preference is generally given to those who are intimately connected with the farming profession. Outsiders, however, can also attend at higher fees.

Instruction in dairy work can also be obtained at a number of small private places, and it forms an additional subject at some of the horticultural institutions already mentioned.

Length of Training.—Diploma courses last for from 1 to 2 years; Certificate courses from 6 weeks to 1 year; short courses of from 4 to 6 weeks deal with butter-making and the manufacture of cream cheeses; there are short cheese-making courses from 3 to 9 months in length. Reading University has just instituted a Degree Course of 3 years open to matriculated students.

In deciding what length of training is required a girl must consider it in connection with her future career. An intelligent girl can easily learn in a few weeks how to make butter and cream cheeses, and the points connected with the initial handling of the milk and cream for this purpose; but cheese-making proper is a scientific art which requires much longer training and experience, and the average learner cannot expect to learn much under a year's course; a really sound knowledge of the various kinds of cheese made under varying conditions, such as is required for teaching purposes, could not be acquired without many years' further experience. If, therefore, a girl is merely going to take a post as dairy worker in a private establishment where only butter

and cream cheeses are made, or wants to know enough to do the same work on a small holding, a few months' training should be ample; but if it is her intention to teach, or to secure a post as manageress in a factory, or as cheese-maker on a commercial farm, two to three years' training is essential, and many years' further experience under varying conditions is desirable.

Cost of Training.—The cost of taking the Diploma Course at the county council centres and at University Colleges averages £100 a year inclusive of fees for residence. Tuition, only, varies from £14 5s. to £41 a session of three terms. Some counties give scholarships tenable at Reading, and most counties have reduced fees for students resident in the county.

(b) OPENINGS IN DAIRY WORK.—For women who have been trained in dairy work, and who do not return to their own homes, the openings in this country are practically confined to salaried posts, as dairy maids, teachers, managers or assistants on commercial farms, factories or milk distributing depots. A woman with capital who wishes to start an enterprise of her own has only the choice of three openings: (1) dairy farming; (2) cheese factories where the milk is bought from neighbouring farms and converted into cheese; and (3) retail dairies. The last-named branch of dairying hardly enters into present considerations, as it concerns distribution rather than production; but I came across one or two successful enterprises in which a retail shop in a provincial town was run in connection with a dairy farm and appeared to pay well. Poultry, fruit, vegetables, butter, cream, and soft cheeses were sold as well as milk. There is always a demand in small country towns for first-class dairy produce, and it is these rather than the larger towns in which it is often difficult to get good butter and milk. An enterprise of this kind, however, demands business capacity and organising power, as well as a knowledge of the farming side, while a good deal of capital is involved.

Cheese Factories.—These hardly come within the scope of this enquiry, as they do not involve an outdoor life. There are one or two cases of women running cheese factories successfully after some years of dairy training and experience, and these women are of opinion that the industry can be made to pay. They buy milk from neighbouring farmers and turn it into cheese.

Miss X buys 400 gal. daily for 10 months and employs 3 girl assistants.

and 1 boy, superintending the business and doing part of the work herself. The farmers take back a percentage of the whey, the remainder being used for pig-feeding, about 20 pigs being kept at the dairy. Her annual turnover amounts to £2,000. The work is hard and continuous, involving Sundays as well as week-days. The dairy closes for 6 to 8 weeks in the winter when the farmers are rearing calves and milk is hard to get.

Small Dairy Holdings.—I did not come across many women who had set up for themselves on holdings of an exclusively dairy type. The larger dairy farms, over 100 acres in extent, which do not come within the scope of this enquiry, sent milk up to London or made cheese. Women who worked smaller holdings held the opinion that they could not provide for the wages of a man employed regularly and live on the profit from the holding, but that if they had sufficient experience in farming to enable them to run the holding with occasional assistance it might be possible for them to make a living with the help of women assistants or dairy pupils. Women have taken up this type of farm in increased numbers of late years.

Salaried Posts in Dairy Work.—There are practically four types of posts available for the trained worker; viz., as Dairymaids, Teachers, Managers of Commercial Dairies, Assistants in Milk Depots and Factories.

Dairymaids.—These posts are on private estates or commercial farms. The educated woman is largely replacing the old type of dairymaid in private households who as a domestic worker, is increasingly difficult to get. Many farms now go in for producing Grade A milk, and this has created a demand for the educated woman who can be relied upon to do, or supervise, the bottling in the required manner. The cheesemaker on farms seems to be largely recruited from the farming class, the County Council Centres catering specially for her training. Occasionally the professional woman, with whom we are more concerned, obtains these posts.

The demand for the trained dairymaid who can milk exceeds the supply. Wages are from 32s. up to £2 a week, or from £1 to 30s. living in.

Teaching Posts.—These posts require long experience in practical work of a varied nature; there is much hard work in the early stages, and women must be prepared to turn their hand to anything; they must also have received a sound scientific education.

In County Council centres salaries for teachers run from £120 to £250. In many instances board and lodging are given

in addition, and travelling expenses allowed in the case of itinerant teachers. The work is often hard and the hours long and milk has to be dealt with on Sundays as well as week days. The large majority of County Council posts are given to those who can also give instruction in Poultry Husbandry.

The posts are few, and are hard to secure by the younger women; they are for the most part held at county council centres, some ladies' colleges, and a few private institutions.

Manageresses of Commercial Dairies and Factories

—These posts also require long experience in practical work. In one case the milk of 100 cows was bought daily and turned into Cheddar and Stilton cheeses, butter and cream cheese. The separating and churning were done by electricity; there was a boy to do the rough work and pupils to help. In another case, the manageress of a municipal milk depot had to buy 700 gal. of milk daily and distribute it to hospitals and child-feeding centres, while a large quantity was "reconstructed" for infant feeding.

These are instances of the smaller type. Many women now have charge of departments in large Dairy businesses dealing with thousands of gallons of milk a day.

Assistants in Milk Depots.—The Clean Milk campaign has opened up quite a demand for a new type of dairy worker on the scientific side. Women are now employed in the large dairying business in the analysis and sampling of milk, and in factory testing operations besides the supervision of the plant. The pay is from £150 to £200 a year. These posts naturally demand a scientific training such as is given in the best Diploma courses.

C.—Poultry Work.

(a) TRAINING.—The training in poultry-keeping before the war was very inadequate; there was no standardised national examination for diplomas analogous to the National Dairy Diploma, or the Diploma in Horticulture awarded by the Royal Horticultural Society. Nine only of the county councils had fixed centres where poultry-keeping formed a recognised course, although others may have held lectures and given demonstrations on the subject. Moreover, of these nine, Hutton alone had the stock and equipment on a scale sufficient for those who required a complete course of study.

This subject was also taught at the Horticultural Colleges of Swanley and Studley, and at many of the private gardening institutions. There were also innumerable commercial enterprises in connection with which a small number of pupils were taken, for in this industry, as well as in others, pupils are one of the sources of profit.

There was no centre where women could be adequately trained as poultry instructors; this fact was pointed out in the report of the Committee which enquired into the Agricultural Education of Women in 1915, and the establishment of such a centre, and the institution of a National Poultry Examination with a Diploma, form two of their recommendations.

Since that date great strides have been made both in the industry and in the educational facilities. The formation of the National Poultry Council in 1919 representing all phases of the industry marks the beginning of a new era. The long felt-want of a National Diploma in Poultry Husbandry has been met, and a National Poultry Institute has been established. The Institute is divided into six sections each dealing with the various aspects of the industry. The section at Harper Adams Agricultural College is concerned with instruction. Provision is made for three courses in Poultry Husbandry, an Elementary and an Advanced Certificate Course, of one and two years respectively, and a Diploma Course.

While the Harper Adams Institute represents the most central up-to-date features in connection with the work of the poultry keeper, every County Council Centre, as well as every College, has its poultry side.

The fees for training at Harper Adams for Women are from £75 to £125 per session of three terms inclusive; and £25 to £50 for tuition only; the lower rates are for residents in contributing counties, or for the daughters of farmers.

The private poultry schools, and the commercial enterprises which take pupils, charge very varying fees according to the length of the courses and the accommodation provided.

(b) OPENINGS IN POULTRY WORK.—*Own Holdings.*—Poultry-farming is an occupation which has attracted amateurs amongst men as well as women, perhaps more than any other outdoor profession, and, possibly as a consequence of this, there are more varied opinions about the openings connected with it than with any other branch of agriculture. Those who have failed to make a living out of it, or who have lost all their capital, are legion; this, however, should be no

more than a warning to anyone not to take it up lightly without adequate knowledge and experience, and, possibly, the right instinct. There is now and will be an increasing demand for poultry produce of every description. The British are the stock breeders of the world; and there is an unlimited home market for eggs and a good demand for table birds. Co-operative methods, which are wanted more perhaps in this branch than in any other to enable producers to compete with foreign prices based on co-operation, are slowly making headway. There is a strong prevailing opinion that at the present stage of development of the poultry industry it is probably better for the average person to keep poultry as an adjunct to other farming operations than to have a poultry farm only. This may be the best advice to give in view of the fact that when investigating in 1915 I have come across many women who have taken up poultry-keeping on ordinary lines on a small scale, with not at all encouraging results. On the other hand, I visited others who had made a success of it on a larger scale and each on very different lines. It may be of interest to indicate briefly their several methods, if only to illustrate the different ways in which the industry can be approached.

(1) Mrs. B. adopted egg-production on the intensive method, and had been thoroughly successful with it. At the time of a visit she had 350 chickens under 8 weeks old in 8 foster mothers, standing in a yard which measured 7 by 13 yds. On one-twentieth of an acre in the garden there were 9 intensive houses of various patterns, containing about 250 to 300 hens—mostly White Leghorns. From 400 to 500 chickens a year were hatched; and day-old chickens, eggs and stock birds were sold. The approximate number of eggs sold during the year was 30,000.

Mrs. B. had no previous knowledge of poultry work, and started keeping fowls in the ordinary way in the garden. Owing to the small space and the consequent ill-success of this method she decided to adopt the present system; and where she formerly kept 24 fowls and had hard work to prevent insanitary conditions, she is now able to keep 400 to 500 birds without the slightest trace of discomfort. She considers that poultry-keeping would be a very remunerative employment for women if conducted on proper lines; but it requires great care and judgment and thoroughness in details, the lack of which has caused many failures where the intensive method has been carried out without sufficient attention to the main points.

(2) "G." also goes in entirely for egg-production, but adopts quite a different system. She has 57 acres of land, part of a 200-acre farm, her brother farming the remainder as a separate concern. With the exception of two Suffolk mares, kept for breeding purposes, the entire stock consists of poultry, to which the land is devoted, the pasture being used for free range, and the arable for growing the bulk of the poultry food. The food consists chiefly of wheat, but also of barley and peas, most of the soil being unsuitable for oats; while clover hay, swedes, turnips, mangolds and carrots are also grown.

At the time of my visit in May she had about 1,700 head of poultry; of these 500 were Buff Orpington hens, mostly 4 or 5 years old, kept for

rearing chickens, 300 White Leghorns for breeding purposes, and over 900 cross-bred White Leghorns in the laying house; she was sending away an average of 800 eggs a day. The cockerels are disposed of at once, and the pullets run with the hens till September, when they are put into their laying quarters—a house 200 ft. by 16ft., and accommodating 1,000 birds. The incubator house contains ten 200 egg-incubators heated by water pipes on the same system as in a green-house, a small petrol stove being used for heating purposes.

The annual net profit for the last four years has been estimated at quite £50 per 200 birds. G. took up farming 10 years ago, and it was on finding that poultry were the most paying stock she had, that she decided some years later to devote the whole of the land to it.

(3) "C.'s" holding is of an entirely different type. She devotes herself almost exclusively to poultry breeding, but includes other branches on a small scale purely for purposes of instructing pupils. She has 28 acres of land, and by a process of sub-letting the grazing of different fields in rotation she is able to get constant change of ground for the poultry and recovers most of the rent which would otherwise be chargeable to them. Also, of the land she keeps in hand one-third is in hay every year, and the hay is sold; the breeding pens are put up in October and go on till March, so that the land is free for hay in April. About 500 stock birds are kept and 1,500 birds are reared annually. A feature of the place is the large room holding 32 incubators, which are kept going from January to May. The employees consist of 1 foreman, 1 boy, and 1 lady; 4 pupils are taken for three-month courses, or for short courses of three weeks. C set up for herself 20 years ago on half an acre with 20 hens; she had very little capital, and suffered from bad health, and considers that the only training she received on a poultry farm had to be unlearned before she became successful.

Salaried Posts in Poultry Work.—The salaried posts in connection with poultry-keeping, both for teachers and assistants, are generally combined with dairying; a considerable number of dairy posts now held have been obtained owing to the combined knowledge. It has been found also that many private employers desire to combine gardening with the poultry yard, and at some of the horticultural institutions students are advised to take a short course in poultry-keeping to enable them to undertake these situations. Otherwise the paid posts are chiefly as managers of exhibition farms or assistants to poultry fanciers and breeders, who sometimes prefer trained women to men, as they find that an educated woman is more careful and conscientious about details.

The wages offered for assistants are from 15s. to 25s. a week, with board and lodging. A manager occasionally gets as much as £150 and commission with cottage accommodation.

The impetus given to poultry instruction in the last few years has resulted in an increase in the number of teaching posts connected with the County Councils. In Ireland, where national interest in the poultry question is not of such recent date, the industry is entirely in the hands of working women: there is an instructor in every county and the teach-

ing posts are only offered to women. Wales seems to have followed suit in this connection, for out of 12 Welsh County Councils 10 have women as the Dairy and Poultry Instructor for the County. In England out of 37 County Councils, only five have women as the Instructor and seven others have women as Assistant Instructresses. Out of this total of 22 posts only three are for Poultry Instruction only; the others are combined Dairy and Poultry posts.

These figures indicate that the number of teaching posts for poultry workers only is almost negligible, for the same proportion would be found in posts offered by colleges and private schools.

From the opinions obtaining amongst those who have taken up poultry work it would appear that it is specially suitable for women. The hours are long, but the actual physical work on a small farm need not be heavy, although it is incessant, and one must be strong enough to be out in all weathers. To obtain success it is necessary to be very observant, patient, and attentive to details.

Co-operation and Small Holding Colonies for Women Farmers.

The drawbacks due to the economic isolation of women taking up outdoor work on a small scale might be largely overcome by adopting some workable form of co-operation. In the case of men working small holdings, there have been successful schemes established where the men, even if they do not always hold the land co-operatively, buy necessities, sell produce and hire implements on this basis. Several attempts have been made in the past to establish such colonies for women, but have not succeeded. The failure has been due, partly to the lack of business methods in management, and partly to the fact that the best type of woman is not found on colonies, the more reliant and business like types often preferring to strike out for themselves.

In 1920 the W.F. & G. Association started a colony on a different basis. Warned by the failures of their predecessors in the matter of trying to impose co-operative habits amongst the somewhat incompetent type who lean on mothering Associations, their object was merely the provision of small holdings on a landlord and tenant basis. They followed the method of the County Councils whose object is also merely the provision of holdings by the cutting up and adapting of large farms, and letting to the best men amongst the forthcoming applicants.

The tenants are left entirely free to work their holdings as they wish, and are under no obligation to the Association beyond the paying of rent and keeping the holdings in proper cultivation. It was hoped that they would co-operate amongst themselves as a separate undertaking, and the Association tried to foster any leanings in this direction by the provision of some communal implements, a central dining and club room, and the erection of a hut for sale of produce, when the tenants showed a desire to co-operate for this purpose.

The Colony when purchased comprised 98 acres, of which 25 acres were already planted with bush apples in full bearing, the rest being mainly grass land and a few acres of arable and woodland. A private road cut the estate in half—thus avoiding road making. Housing conditions were met by a good modern house, several cottages and a substantial old mill capable of adaptation. The land was divided up according to the existing housing into two farm holdings and several market garden and fruit holdings. Since that date the house has been sold, six new cottages built, two old ones restored and the mill converted into three self-contained flats. This increase in housing has enabled the Association to let the planted fruit and garden land in smaller lots varying from one to three acres; this size appears to be all that a woman with little capital, and therefore unable to employ much labour, is able to cultivate. Most of those on garden holdings go in also for poultry. One tenant has an Angora Rabbit Farm, and one runs a tea room in connection with the sale of produce on the main road bordering the Colony.

As to results, the undertaking has survived the shattering influence of the unexpected fall in agricultural values which took place in 1922 and is holding its own financially, thanks to initial help in capital outlay.

One of the original settlers has now bought her holding and is carrying it on as a market garden. Three have moved on to larger or more convenient farms, the Colony having provided them with the opportunity of making a start until holdings more suitable to their individual requirements were on the market. The degree of success attained by individuals or the causes of failure are governed by the conditions already mentioned above, viz., sufficient amount of capital, adequate knowledge on both the business and productive side, personal competence, and good health.

Opportunities for Outdoor Work Overseas.

× Many of the women who have passed through the horticultural colleges, or who have studied dairying or poultry-keeping at the various centres, have learnt the work prior to leaving for the Colonies to be married. A few have gone out to take up work there independently or to join relations on fruit and poultry farms. For those who have capital and knowledge South Africa especially appears to offer a profitable future to those who set up on their own account. As regards paid posts, however, there is practically no scope for the salaried outdoor worker.

In Canada and Australia there is a large unsatisfied demand for the girl who will also do household work, and no doubt anyone going out in this capacity could eventually obtain outdoor employment by watching her opportunity.

A special overseas course has been started at the Lancashire County Council Farm at Hutton. In addition to the ordinary courses in Dairying and Poultry-keeping, special instruction is given in general farming and gardening and in practical housewifery. The course lasts 12 months and the fees, including board and lodging, are £48 for students from the county and £96 for those outside.

PART III.

SUMMARY.

We have now considered what training exists in the various branches of horticulture and agriculture, and have briefly reviewed the prospects for subsequent employment.

In *Horticulture* we have found that until the outbreak of war the salaried posts were limited in number, and that the salaries, although often higher than those accorded to male gardeners of the working class, were low relatively to the expenses of training, and did not admit of saving for illness or old age. There is no doubt that these posts have considerably increased and the conditions under which the women work are improved. Of those who have set up on their own account, a very few had struck out along new lines and done well. Putting these aside, practically no one was making an entire living without the aid of pupils or paying guests; those who had started under proper conditions were supplementing small incomes and leading the outdoor life, which they preferred.

What has been said above applies also to *Farming* on a small scale.

Whereas in former times there were practically no salaried posts for educated women in farming, there is now an increasing demand for cow-women on small dairy farms and private estates. There has also been an increase in the number of women who run small dairy farms of their own and as a rule employ other women on them.

In *Dairy and Poultry Work* while the training for the lower posts can be obtained at less expense and in less time, the better paid posts are fewer in proportion and require long training and experience. For students who have taken the Diploma and Degree Courses in Dairying there is the prospect of a greater number of posts in the big Dairying businesses, with comparatively good pay. The increasing attention paid to cleanliness in the production of milk also seems to react in favour of the employment of educated women on the Dairy farm. Those who wish to set up for themselves

would probably find that training in dairy work *alone* would only enable them to run some form of retail business or a cheese factory (both of which involve business capacity, and cannot be classed as outdoor work), for dairy farming entails experience in agriculture as well as in dairy work proper. Poultry farming is carried on successfully by many women, but is a very risky occupation for anyone without proper experience.

Apart, however, from the commercial point of view, there are certain advantages in outdoor work to which a money value cannot be attached; and to many women the important point may be not so much whether gardening or farming pays, but whether an intelligent woman, coming into it from the outside with certain qualifications, and having had sufficient training, can hope to supplement a small income, or, alternatively, be able to live after having invested in it the few hundred pounds she possesses. The answer is that quite a number of women are doing this; they find the work congenial, though hard, and the life healthy. Those who have not invested all their capital in the business, but retain a small private income, are not involved in an actual struggle for bare existence. They have their own homes, and live an independent life; they get many of the necessaries of life thrown in which in another existence on the same income would be regarded as luxuries, such as fresh air, fresh eggs, butter, vegetables, and milk, and possibly a pony or a car to drive, and they can wear old clothes. The life is not monotonous to those who understand it, but full of change with the varying seasons and the different work they bring. A money value cannot be put on these things, but to women who prefer the country to town life, and to whom a rural career, even if attended by a reduction in income, would be preferable to more highly paid but uncongenial work in town lodgings or private situations, the advantages are priceless.

It must, however, be remembered that the answer to the question whether women can make a living on the land depends to a considerable extent on what is to be regarded as a living. The profit that would keep a working man and his wife, the wife doing the housework, would be quite insufficient to keep two educated women, if they are to live with any of the comforts they are accustomed to.

As regards salaried posts the war has caused a large number of employers to do their part in adapting conditions of work, in such matters as housing accommodation, pro-

vision of meals, etc., to the needs of women. It remains now with the women to make employers realise the difficulties of women workers who are doing work usually done by men of the working class, and the demands which they may reasonably make in view of their somewhat higher standard of life. It is for them also to overcome prejudices on the part of fellow workmen as well as employers. Tact and competence, now that the doors are open, will go far to obviate existing difficulties; while, on the other hand, unreasonableness and incompetence will do the profession an immense amount of harm.



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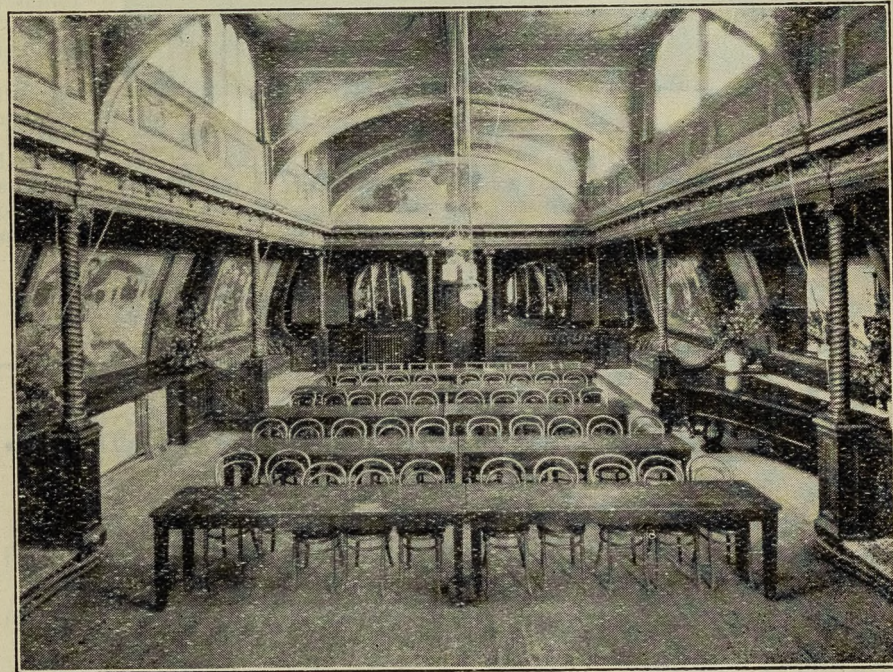
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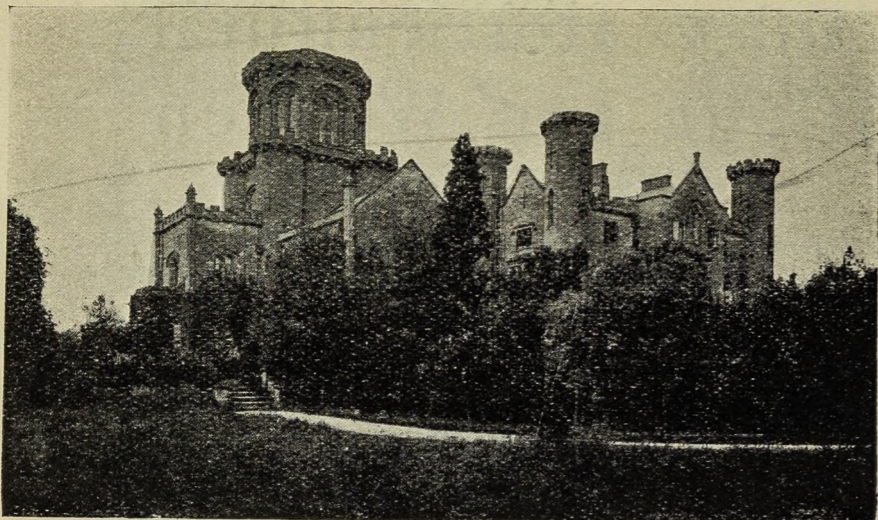
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