

**REPORT
FROM THE
INSPECTORATE**

**Curriculum Area
Survey Report**

February 1997

Agriculture


**THE
FURTHER
EDUCATION
FUNDING
COUNCIL**

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FUNDING COUNCIL***

The Further Education Funding Council has a legal duty to make sure further education in England is properly assessed. The FEFC's inspectorate inspects and reports on each college of further education every four years. It also assesses and reports nationally on the curriculum, disseminates good practice and gives advice to the FEFC's quality assessment committee.

*Cheylesmore House
Quinton Road
Coventry CV1 2WT
Telephone 01203 863000
Fax 01203 863100*

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SUMMARY

Agriculture is the smallest programme area of the Further Education Funding Council (FEFC) in terms of the number of students enrolled. The subjects covered by the programme area have broadened considerably over the past few years; enrolments on some agriculture courses have declined and there has been significant growth in other areas, including animal care and equine studies.

Students on courses in the agricultural programme area are from a wide variety of backgrounds. The majority study in small, specialist colleges of agriculture and horticulture. Such institutions face particular difficulties in increasing their enrolments and improving efficiency. These difficulties include: the rapid decline in funding for each student; the wide range of responsibilities resting on relatively low numbers of staff; the rural location and wide catchment area which often makes travel difficult and expensive; the reduction in discretionary awards for students which has made it difficult to recruit students from outside colleges' travel areas; and courses which are costly to deliver.

Some colleges have risen successfully to the new challenges. They have developed effective management structures and produced clear, forward-looking strategic plans. They have built on the traditional strengths of agricultural education which include: technically knowledgeable staff; the effective use of the college's estate for teaching purposes; good staff-student relations; high standards of achievement in practical work and assignments; and the range of activities undertaken by students outside lessons which effectively relate to their future employment.

Other colleges have been less successful in managing change and this has affected the quality of the students' experience and the standards they achieve. The proportion of higher inspection grades (grades 1 and 2) awarded to curriculum areas and lessons is now lower than the

average for the sector. Particular problems have been: a failure to address the widely differing learning needs of students on the same course; poor tutorial provision; and a failure to adjust teaching methods to take account of reductions in the number of hours taught.

Colleges offer a good range of full-time programmes in most areas and there are opportunities for students to gain practical awards in addition to their main award. However, students are sometimes placed on inappropriate courses and insufficient account is taken of their previous experience when planning their learning programmes. Most colleges have established close links with industry and are often able to make use of employers' facilities in their teaching, but consultation with employers on curriculum matters could be developed further. Employers, generally, are satisfied with the range of courses on offer and the way they are taught.

The period of change is by no means over for colleges. Skilful, imaginative planning and management will increasingly be required if the needs of students and employers are to continue to be met.

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INTRODUCTION

1 Agriculture is the smallest of the 10 programme areas of the Further Education Funding Council (FEFC). There are some 40,000 students, representing around 2 per cent of FEFC-funded enrolments. Some 80 per cent of the full-time students are in small, specialist colleges of agriculture and horticulture, which have the highest running costs of all types of colleges in the sector. Additional information on student numbers and funding levels are given in the statistical summary at annex A.

2 This report comes at a time of rapid change in agricultural education. Enrolments on some agriculture courses have declined, and those on other courses have increased, to the point where the term 'agriculture' no longer accurately describes the work of the programme area. Agriculture is one of six broad curriculum areas which make up the programme area. The others are: countryside and environmental management; horticulture; floristry; equine studies; and animal care. The curriculum areas are described in annex B.

3 This report is based on inspections carried out between September 1993 and August 1996. As part of the college inspection programme, inspectors visited 29 colleges providing courses in the agriculture programme area. Inspectors observed 1,252 teaching sessions and awarded inspection grades to 69 curriculum areas. The bulk of these inspections were in specialist colleges of agriculture. Between 1993 and 1996, 84 per cent of curriculum area inspections were in the specialist institutions. In 1995-96, 50 per cent of specialist colleges of agriculture were inspected. The curriculum area grades and lesson grades are summarised in annex C. The report also takes account of the views of colleges, employers and professional bodies, as expressed in their responses to questionnaires. Inspectors conducted follow-up interviews with some employers and representatives of professional bodies.

SIZE AND SCOPE OF PROVISION

4 In 1995-96, there were about 13,000 full-time and 28,000 part-time students following FEFC-funded courses in the agriculture programme area. Many specialist colleges of agriculture derive approximately 40 per cent of their income from non-FEFC sources, including training and enterprise councils (TECs) and the Higher Education Funding Council for England (HEFCE). Until a few years ago, almost all students in the programme area were on agriculture and horticulture courses; now nearly every specialist college of agriculture and horticulture also offers courses in countryside and environmental management, floristry, animal care and equine studies. The growth of these new subjects has led to a 25 per cent increase in full-time enrolments since 1993-94 (annex A). In the late 1980s, 30 per cent of the students in one of the colleges in the survey were enrolled on horticulture courses and 70 per cent were studying agriculture. By 1994-95, only 13 per cent of enrolments were in agriculture; horticulture accounted for 46 per cent, animal care for 8 per cent, equine studies for 12 per cent, floristry for 4 per cent and countryside management for 6 per cent. Currently, some 25 per cent of students in specialist agriculture colleges are enrolled on courses in other programme areas. Many such colleges have significantly expanded their provision of higher education courses.

Courses

5 Courses prepare students for a wide range of occupations in land-based industries, concerned with tending plants, animals and the land itself. Most of these courses include a significant amount of science and management studies. Many also include the study of machines and mechanisation.

6 The most heavily subscribed full-time courses in the programme area are: the one-year national certificate course validated by the City and Guilds of London Institute (C&G); the one-year first diploma course validated by the Business and Technology Education Council (BTEC); and the BTEC national diploma course, which runs for two or three years, depending on the length of the work placement. Full-time students following a first diploma undertake a minimum of 30 days' work experience. The C&G national certificate spans intermediate and advanced levels and in some colleges, the course is taught together with the first year of the BTEC national diploma. Some colleges also offer a full-time, one-year advanced national certificate, aimed primarily at students with work experience who hold the national certificate. Most courses are designed by colleges to reflect the practices and developments in their local industries. For example, agriculture courses often have a bias towards livestock or arable studies which reflects the pattern of farming in the locality. Most courses also offer options which enable students to follow their particular interests.

7 Agriculture and horticulture national certificate courses were designed for students with substantial practical experience and few academic achievements, most of whom aimed to enter employment at the end of the course. The first diploma was intended for younger students with little or no pre-course experience and generally catered for a wide ability range. Recently, however, some colleges have relaxed the requirement that entrants to national diploma and national certificate courses have practical experience. As a result, there is sometimes overlap and confusion about the respective functions of the various courses, and entry levels and routes for progression are not always clear or appropriate.

8 In most colleges, there is a strong demand for courses in animal care and equine studies. In some colleges, these courses have been developed over the last two or three years and there is not yet a

complete range of full-time provision. Countryside and environmental management studies, which most colleges offer, encompass a diversity of topics. Courses have widely differing content and, in some colleges, there are not always logical progression routes for students.

9 Many colleges provide opportunities for full-time students to gain practical qualifications from professional and other bodies, in addition to their main qualification. In agriculture, horticulture and countryside management, such qualifications include those required by law to carry out specific activities; for example, handling pesticides or operating chain-saws. National vocational qualification (NVQ) units and industry-specific qualifications, such as those of the British Horse Society, are often provided as an integral or optional component of full-time courses. Additional certification enables students to progress more easily to other courses and improves their employment prospects.

10 Land and environment general national vocational qualifications (GNVQs) were originally due to be piloted from September 1994. They have been delayed twice and eventually started in September 1996. Early indications are that the demand for these courses is low, particularly at advanced level. Few of the pilot courses offered by the specialist agriculture and horticulture colleges have proved to be viable. BTEC has confirmed that its first and national awards for land-based industries courses will remain in operation as long as there is a demand and many colleges are keen to continue offering these courses. Some colleges are offering GNVQs in other subjects, which include appropriate options such as business with equine studies or animal care. This approach is meeting a demand from students.

11 A satisfactory range of qualifications has been developed for students in employment. NVQs in agriculture, horticulture and floristry have been in place for some time. However, the decline in the number of students studying agriculture and horticulture has reduced the ability of some colleges to offer some specialist courses. To cater for individual

needs above NVQ level 2, a few colleges have developed procedures for accrediting students' prior achievements. There is scope for this approach to be extended to students wishing to change career, as well as those currently employed in the land-based industries. Courses leading to NVQs in animal care and equine studies are less well established because of the later development of industrial standards. The demand for some part-time programmes in countryside and environmental management is low and there are few advanced level courses.

12 Many colleges provide short, technical courses for people in employment to update their knowledge and experience. They have responded effectively to demand for qualifications required by law to carry out certain tasks at work; for example, the use of forklift trucks and chemical applicators. A few colleges have carried out a systematic analysis of employers' training needs, and offer flexible modes of study to suit employers' requirements. For example, some provide training leading to NVQs or other tailor-made courses on employers' premises.

Students

13 The students on most courses are from a wide range of backgrounds. For example, agriculture courses often cater for students who have lived on farms all their lives and who have extensive practical experience of farming, as well as for students from an urban background who have little experience of agriculture. Countryside management courses attract mature students seeking a career change, including those with land-based experience in other industries. Such students have a wide range of countryside-related interests and their experience, ability and aspirations vary substantially. A similarly broad spectrum of interests is found on some horticulture courses. Most students on equine studies courses have achieved at least a minimum level of practical competence at riding. Many are relatively young and have spent much of their leisure time riding horses. Over 80 per cent of

floristry students study part time. They are of all ages and many have worked in the industry. The enthusiasm of animal care students usually stems from a love of animals.

14 Colleges' initial assessments of students' literacy and numeracy skills show that a high proportion of students on some courses have weaknesses in one or both areas. It is not uncommon for at least 50 per cent of first diploma and certificate students to need additional learning support. The spread of ability in basic skills is generally most pronounced on one-year courses in agriculture, horticulture and countryside management. For example, some first diploma and national certificate courses include students with learning difficulties and students who hold degrees in other subjects.

15 Many colleges offer courses designed specifically for students with learning difficulties and/or disabilities. In general further education colleges, much of this work within the agriculture programme area is linked to community provision. Most colleges of agriculture and horticulture have established close links with special schools and provide pupils with opportunities to use the college's facilities. The pupils find working with animals particularly rewarding and stimulating. Many colleges have responded to their local TEC by making flexible arrangements for students with learning difficulties and/or disabilities. For example, students have attended full-time courses initially and then enrolled on a part-time programme when work placements have been found. A number of colleges have developed vocationally relevant learning packs to help students develop their skills in literacy and numeracy. The National Proficiency Test Council has introduced foundation awards specifically for students with learning difficulties and/or disabilities. Many students from TEC-funded programmes and some from special schools progress to full-time one-year courses, mainly in agriculture and horticulture, at certificate and first diploma level. A few colleges offer specific courses for students with severe disabilities.

EDUCATION AND TRAINING NEEDS OF EMPLOYERS

16 The industries served by the agriculture programme area (annex B) have a number of characteristics in common. They include a high proportion of small, specialist organisations which have relatively few employees. It is common for students entering employment to be expected to perform basic tasks competently as well as to carry out complex technical and management duties. An ability to work with a minimum of supervision, to show initiative and accept high levels of responsibility are important personal skills. Employers are complimentary about the extent to which colleges instil in students the importance of these attributes. Few of the businesses are large enough to provide structured in-house training and assessment programmes and, therefore, employers have relied heavily on the agriculture and horticulture colleges to meet their education and training needs. This explains the close links that have developed between the colleges and industry, particularly in agriculture and horticulture.

17 In their responses to inspectors' questionnaires, employers indicated general satisfaction with the range of courses on offer and the way they are taught. In the past, employers in the agriculture and horticulture industries have considered themselves well served by specialist agriculture colleges. However, a few are now expressing concern about the quality of students' specialist expertise and practical ability.

18 Where enrolments are low, colleges are finding it increasingly difficult to provide the range of specialist options required by industry, and employers are concerned about the impact this is having on the availability and quality of new employees. For example, there is a shortage of highly-qualified people in specialist agricultural areas, such as livestock production. Many employers in the horticultural industry

believe that the proliferation of more general courses, developed in an attempt to improve recruitment, has had an adverse effect on the quality of work in horticulture. This is echoed in a 1994-95 report by the House of Commons Agriculture Committee which expressed concerns about the adequacy and availability of further education courses in horticulture. The declining number of discretionary awards available from local authorities has also reduced students' opportunities to study specialist courses away from home.

19 There are concerns in the animal care and equine studies industries about the over-supply of students. Both subjects have experienced considerable growth over the last few years and current course proposals indicate that this is likely to continue, particularly in animal care. Although most colleges do not have accurate records of their students' destinations there are indications that less than half of animal care students enter employment which is related to their studies.

COLLEGES

20 In 1994-95, the 32 specialist agriculture and horticulture colleges in the further education sector accounted for approximately 80 per cent of full-time enrolments and 70 per cent of part-time enrolments in the agriculture programme area, funded by the FEFC. Most of the remaining enrolments were at general further education colleges. Approximately 3 per cent of FEFC-funded students in the programme area attend higher education institutions.

Specialist Agriculture and Horticulture Colleges

21 At incorporation, there were wide differences in funding for each student between each of the specialist agriculture and horticulture colleges. The highest funded had an average level of funding some two-and-a-half times that of the least generously funded. The FEFC has sought, through its funding methodology, to reduce these wide

differences. The average level of funding for agriculture and horticulture colleges remains higher than for other colleges (annex A). Nevertheless, the gap has narrowed since incorporation and many agriculture and horticulture colleges have had to cope with a rapidly decreasing average level of funding for each student.

22 The particular circumstances faced by many of these small residential, specialist colleges have restricted their opportunities for growth and improved efficiency. Some of the difficulties faced by these colleges are:

- the high levels of funding for each student at incorporation, and the subsequent need for substantial reductions
- the decline in demand for some courses in agriculture and horticulture, and the need to develop new courses in other subject areas in order to achieve growth targets
- their small size as institutions, which means that managers and teachers must accept a wide range of responsibilities
- the rural locations and wide catchment areas which make transport difficult and expensive for many students
- the reduction in the number of discretionary awards for students which means that colleges have to recruit more students who live within a reasonable travelling distance from the institution
- the low number of students on many courses
- courses which are costly to deliver.

23 Nearly all of the agriculture and horticulture colleges have residential accommodation and historically, this has influenced the development of courses, including the hours taught. With more students recruited locally, the number of residential students on many courses has declined and some colleges have had difficulty in filling their

accommodation. The higher proportion of young students, and the expectation that students will spend more time studying on their own, has increased the need for services to support their personal and social needs.

24 Colleges have strived to meet the substantial challenges they face and imaginative strategies have been adopted to achieve growth and increase efficiency. These include:

- developing new courses within the agriculture programme area
- delivering courses away from the campus
- providing subsidised transport
- offering a mixture of day-release and block-release provision for part-time students
- dividing courses into modules so that different groups of students can be brought together to study common modules
- reducing the number of taught hours
- establishing cost centres and setting performance targets for commercial enterprises such as college farms and horticultural units
- obtaining resources from local businesses at reduced cost
- diversifying into other programme areas, such as leisure and tourism, and business.

25 Despite strenuous efforts, some colleges have experienced difficulty in managing change effectively, and this has had an adverse effect on the quality of students' experience and the standards they achieve. For example:

- modularisation of courses has not been effectively managed

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- teaching hours have been reduced without enough attention to the implications of this for course content and teaching methods
 - staff who take on new responsibilities have not received sufficient guidance and training
 - teachers' non-teaching responsibilities have not been managed effectively and, at times, this has adversely affected their teaching
 - aspects of cross-college provision, such as student support, learning support and quality assurance have not always been managed satisfactorily.

26 The scale of the changes facing the agriculture and horticulture colleges has had a significant impact on their missions. The colleges now see themselves as serving the wider needs of local students interested in tending plants and/or animals rather than responding to the specific demands of the agricultural and horticultural industries. Most specialist colleges have removed the word 'agriculture' from the name of the institution and many are considering working more closely with other educational institutions. The period of uncertainty and change is by no means over. Many specialist colleges face further possible reductions in funding for each student and increased competition between colleges makes projected growth rates uncertain. Skilful and imaginative management is required if the needs of employers and students, often in remote rural communities, are to continue to be met.

Provision in General Further Education Colleges

27 Less than 1 per cent of all FEFC-funded enrolments in general further education colleges are in the agriculture programme area. Some 190 general further education colleges have courses which fall within

the programme area, but the scale of provision is usually small, often comprising only part-time courses. Half of the 190 colleges have 70 or more full-time students and six of these offer substantial provision. Very few general further education colleges have courses in agriculture. Most of the provision is in horticulture and floristry. However, several general further education colleges have identified the agriculture programme area as a development area, with particular emphasis on countryside and environmental courses, and a number are developing animal care courses.

External Links

28 Most colleges offering courses in the agriculture programme area, particularly the specialist colleges of agriculture, have established close links with the industries they serve. They receive considerable support from public, private and voluntary sector employers. Agriculture students use local farms to carry out livestock tasks. Students from countryside management courses use local sites to practise a range of estate maintenance skills. Local organisations are used as the subject of case studies and their owners and managers are often involved in assessing the students' work.

29 Colleges often seek and receive advice from employers on the development of resources such as the college farm. Consultation with industry on curriculum matters is less effective. Nevertheless, some colleges involve employers in course reviews and invite them to visit classes and talk to students. A few colleges have established formal links with countryside and environmental agencies and make valuable contributions to the development of local rural strategies.

30 Many colleges have good links with local schools. Again, this is particularly true of the specialist colleges. They provide a range of activities, such as structured visits and 'taster' courses, which contribute to the pupils' general education and help them to think about career

options. Effective use is made of specialist resources, in particular the wide range of habitats on the college estate. Some colleges have developed learning materials to support specific themes related to the national curriculum. Many use their links with schools to promote their courses.

QUALITY OF PROVISION AND STANDARDS ACHIEVED

31 The quality of teaching and learning in the agriculture programme area is generally sound and sometimes good. The highest standards of teaching and learning are often associated with practical work. However, the proportion of higher inspection grades (grades 1 and 2) awarded to lessons and curriculum areas is lower than for most other programme areas. In addition, there has been a decline in the proportion of inspection grades 1 or 2 awarded to curriculum areas within the agriculture programme area. A summary of lesson grades and curriculum area grades is given in annex C.

Curriculum

32 Courses provide a blend of technical knowledge and skills and a clear vocational focus. On the majority of diploma courses management studies are used effectively to draw together technical aspects of the curriculum. However, science and the maintenance and operation of machinery are often taught as discrete topics and students do not always appreciate their relevance in the early stages of their course. Conservation and environmental management provide integrating themes on many courses.

33 Over the last few years, the amount of time that students spend in direct contact with teachers has been reduced. Some full-time students now attend college for four days a week or fewer. In some cases, these

changes have been implemented without consulting employers, and without ensuring that the content of the curriculum and the teaching methods are still appropriate. Where direct contact with teachers has been reduced, more could be done to ensure that students use their private study time effectively.

34 The links between theory and practical work within individual study modules are effectively established but cross references to other related elements of the curriculum are often insufficiently explicit in the early stages of courses. In consequence, some students fail to grasp the importance of the relationships between subjects, and question the relevance of some of the theory they study. Course documentation is rarely sufficiently detailed to identify links between subjects.

35 A range of teaching and learning methods is used, including practical work, lectures, tutorials, case studies, assignments, work experience and visits. On most courses, about half the timetabled periods are allocated to practical work. Most of the remaining time is classroom-based and there is often a lack of variety within this element of the students' programme. A strong feature of courses in specialist agriculture colleges is the extent to which students take part in other activities designed to broaden their experience, many of which relate to their future employment.

Practical Work

36 Much of the practical teaching is of a high standard. Teachers ensure that students have a firm grounding in the basic techniques. Through their close links with industry, most teachers are well informed about the commercially acceptable levels of competence their students require to reach. They provide skilful demonstrations, make appropriate references to related theory, and emphasise the health and safety aspects of the work. Students' work is closely supervised and ways of improving performance are clearly explained to them. In the

best practice, students are encouraged to appraise their own performance. A minority of practical sessions are poorly managed.

37 Many equine studies courses require entrants to demonstrate a minimum standard of practical proficiency, which can be built upon as the course progresses. Industrially relevant standards of performance are clearly identified and achieved. In floristry, practical skills are practised until they are of a standard acceptable to industry. Students' portfolios provide an illustration of the seasonal variations in their work through the year and these have been useful to students during their interviews for jobs.

38 Many students carry out routine tasks on the colleges' commercial enterprises and specialist facilities which provide them with realistic work experience and opportunities to develop competencies and personal qualities relevant to future employment. In most colleges, students on animal care and equine studies courses undertake the daily stock-keeping routines. Students on agriculture courses are usually involved in most of the college farm enterprises and in some colleges, advanced students are given management experience by supervising other students. In the later stages of their course, students are often able to work effectively without direct supervision, for example, in milking cows.

Theory

39 Most theory lessons are prepared satisfactorily. Topics are developed in a logical way. Teachers stress the industrial relevance of the work, often by reference to the college's commercial and practical units. However, introductions to, and summaries of, lessons are often rushed. Opportunities to check levels of understanding are missed by some teachers and key conclusions are not given enough emphasis.

40 The teaching of theory is most effective when there is a balance of activities, involving opportunities for students to work on their own, in small groups and as a whole class. In such lessons, students are encouraged to raise concerns and the teacher is able to clear up any misunderstandings, both for individuals and for the whole class. There is also time for the teacher to provide additional help to weaker students whilst the rest of the class is kept fully engaged.

41 A substantial proportion of students experience little variety in methods of working, either in individual classes or across their programme as a whole. Most of their time is spent listening to the teacher or copying notes from the overhead projector. The effectiveness of these lessons varies. Some are interesting and informative, but overall they take too little account of the different needs of students within the class. Teachers' questioning of the class is not always skilfully handled; often the more able or more experienced students are allowed to monopolise the responses and other students lose interest and pay little attention to the lesson. This is a particular weakness on national certificate and first diploma courses where classes are composed of students with widely differing abilities.

Key Skills

42 Courses provide many opportunities for students to develop the key skills of communication, problem-solving, working on their own and working as a team, although these aspects of learning are rarely identified in teaching schemes and lesson plans. The development of key skills is recorded and assessed systematically on BTEC courses but often not on other programmes. Much of the work undertaken by students outside timetabled periods enables them to develop a range of personal skills relevant to employment; for example, working unsupervised, showing initiative, observing phenomena, and finding solutions to problems. For mature students, particularly those

returning to study after a long break from education, insufficient attention is given to developing study skills.

43 With few exceptions, students have the opportunity to use computers on their course. On some agriculture courses, students can make use of the college's commercial software, for example, farm enterprise management programmes. In a few colleges, information on plant collections is stored on electronic databases which students use in plant identification studies. Insufficient attention is given to the development of information technology skills on many courses. Information technology is often taught as a discrete subject and its relevance to other parts of the course is not always emphasised sufficiently.

Assignments

44 Extensive and effective use is made of assignments in most subjects other than floristry. A feature of much of the assignment work is its commercial relevance. Many assignments, particularly towards the end of a course, have an integrative function, requiring students to draw on the knowledge and experience they have gained from various aspects of the course. For example, most final-year students on the national diploma in agriculture carry out a management case study to develop a tenancy proposal for a local farm. This requires students to draw on their knowledge of husbandry and apply it to management problems they may well face in the future. Local farmers are often involved in the assessment of the study which includes an oral presentation and an interview.

45 Most assignment briefs provide clear guidance on what students are expected to do but there is often insufficient information on the relative weighting of the tasks to be undertaken and students should be given more guidance in the early stages of their course on structuring reports. Some assignments are insufficiently challenging for the more

able students. The quality of teachers' written feedback on students' work is generally good. In most cases, students receive helpful advice and guidance, which provides a sound basis for improving their performance and increasing their understanding.

46 Some assignments, particularly those of mature students, are of an exceptionally high standard. Most students produce work which is comprehensively researched and has relevant content but, it is not always well organised or presented professionally.

Work Experience and Visits

47 Most diploma courses include work experience, ranging from a year's 'sandwich' experience to one day a week in the workplace. Generally, the experience is highly valued by the students. Most colleges have effective arrangements for briefing employers and students. Good use is made of exercises and assignments to help the students obtain maximum benefit from the experience. Sometimes this work is effectively integrated with subsequent college-based activity. Employers are involved in the assessment of the students' technical abilities and personal qualities. In some colleges, the outcomes of these assessments are used effectively to help students improve their performance and plan their careers. In a few colleges insufficient attention is given to setting up and monitoring work experience placements and students question the relevance of what they are asked to do.

48 Apart from work experience, many students visit local enterprises, go on study tours to other areas of the country or travel to other European countries. These activities provide valuable opportunities for them to broaden their experience; for example, to see habitats not available locally or to gain an appreciation of different farming patterns and types. Given the influence of the European Community on farming, study tours to other European countries have proved particularly valuable.

Student Support

49 Students benefit from the close and productive working relationships between teachers and students. Most students are complimentary about their teachers' willingness to respond to requests for help. Residential staff and others responsible for their welfare provide a valuable alternative source of advice and support for residential students. Most students are allocated to a personal tutor, who is also a course tutor. These arrangements usually lead to good subject tutoring but the wider educational and personal needs of students are often not systematically identified and met. In some colleges, students receive regular feedback on their overall performance from their tutors. Weaknesses are identified, and actions are taken to address these. Students are given the opportunity to raise concerns and discuss their progress. In other colleges, tutorials are poorly structured and tutors expect students to identify their own needs. Learning targets are rarely set, records of interviews are insufficiently detailed and there is insufficient monitoring of tutorial activity. Often, insufficient support is given to weaker students early in their course when they need it most. Many personal tutors need more guidance and training in order to carry out their duties effectively. Most specialist colleges are developing cross-college learning support units where students may develop their basic skills, including numeracy, but most of these are not yet operating as effectively as they might.

Assessment

50 A wide and appropriate range of assessment methods is used. It includes assignments, case studies, practical tests, and written and oral examinations, all of which are well matched to the aims of the programmes. Students are usually well informed about the assessments they need to complete and appreciate the opportunity this gives them to plan their work. For most practical assignments, arrangements are in

place to ensure that the methods used are consistent and the standards to be achieved are agreed. The close links established with industry help ensure that these standards are commercially relevant. Most written work is marked fairly and accurately, although a small number of teachers are over-generous in awarding merit and distinction grades.

Completion and Pass Rates

51 The proportion of full-time students who successfully complete their course varies widely between colleges and courses. Although there are some low overall success rates, the proportion of students entered for examinations in the agriculture programme area who succeed in gaining their qualifications exceeds that in any other programme area. Table 1 shows the completion and pass rates for full-time students completing their studies in 1995 in the eight agriculture and horticulture colleges inspected during 1995-96.

Table 1. Full-time students' completion and pass rates (1995) in the eight agriculture and horticulture colleges inspected 1995-96

<i>Type of course</i>	<i>Enrolled at start of course</i>	<i>Completed the course</i>	<i>Achieved the award at the end of the course</i>	<i>Completion rate (%)</i>	<i>Pass rate (% of those completing)</i>	<i>Overall pass (% of those enrolled)</i>
First diploma (one year)	438	369	316	84	86	72
One-year certificate courses	451	377	299	84	79	66
Total for one-year courses	889	746	615	84	82	69
National diploma (two or three years)	259	215	192	83	89	74
Total for diploma and certificate courses	1,148	961	807	84	84	70

52 For the students in table 1, 70 per cent successfully completed their courses in the target time; about 16 per cent left before completing their studies and about the same proportion failed at the end of the course. In half the colleges, approximately one-third of the students enrolled failed to qualify. High withdrawal rates are a problem on many courses.

On national diploma courses most of the students who leave do so before the final year of the course. Although most colleges record the reasons given by students for withdrawing from a course, few of them use this information as a basis for making improvements and in some cases, the reasons recorded are too general to be useful. Pass rates for those students who completed their courses were generally satisfactory, and national diploma students achieved a good pass rate. There were substantial variations in completion and pass rates between the different subject areas within the agriculture programme area. In general, the rates for successful completion of equine studies and animal care courses were high.

53 Most part-time students in employment achieve their target qualification within the planned timescale. However, some of those who have little pre-entry experience are not able to gain sufficient work experience to achieve a full NVQ award. Overall pass rates for advanced courses of part-time study vary widely. In horticulture, some students who are not employed in the industry take vocational part-time courses mainly for recreational reasons with little intention of achieving the award.

Destinations

54 A substantial proportion of full-time students whose destinations are known progress to further studies or related employment. Most first diploma students continue their studies and many agriculture, horticulture and floristry national certificate and national diploma students obtain jobs in the relevant industry. Generally, employment opportunities are good and few of these students go on to higher education. Most agriculture students go to work on farms where first employment opportunities range from farm worker to enterprise manager. Horticulture students have available a wide range of specialist jobs carrying varying levels of responsibility. A significant number of agriculture and horticulture students become self-employed, often

working as contractors or relief workers, and some colleges have responded to this by providing opportunities for students to develop the skills and understanding relevant to self-employment, for example, the skills involved in managing a small business. In other specialist areas, such as animal care, countryside management and equine studies, employment opportunities are more limited. A higher proportion of these students progress to higher education.

55 Although most course tutors hold satisfactory records of what happens to their students when they leave college, little use is made of this information in reviewing and developing the curriculum. Given the changes over the last few years in the type of students being recruited and in the patterns of employment, this neglect is significant.

RESOURCES

Teaching Staff

56 Teachers are appropriately qualified. In most specialist agriculture and horticulture colleges, between a third and a half hold degrees. Others generally have appropriate vocational or professional qualifications; for example, most teachers of equine studies have instructor qualifications from the British Horse Society. Some colleges encourage all their staff to gain a teaching qualification. In most colleges a high proportion of the teaching staff have assessor and verifier awards or are studying for them.

57 People who work in local enterprises, such as horticulture or floristry, are often employed as part-time teachers. They have valuable, up-to-date expertise and help colleges to strengthen their links with employers. On some of the courses recently introduced, the proportion of part-time teachers is high, and in some cases, these part-time staff receive insufficient support particularly in developing teaching skills.

Support Staff

58 In most colleges, teachers are adequately supported by technicians and other support staff. The use of technicians as instructors helps in the professional development of technicians and reduces staffing costs, but ineffective management of the duties which accrue to the two roles sometimes leads to a weakening of support for teaching and learning. There is a shortage of specialist technicians to operate and maintain computer networks. The non-teaching staff frequently make valuable contributions to students' learning. For example, workers on college farms and other commercial enterprises supervise students and are often involved in their assessment. Many of them are working towards assessor qualifications.

Specialist Resources

59 Agriculture and horticulture college estates include landscaped grounds, sports fields, horticultural units and farms. Extensive use is made of these facilities, which are usually impressive. The farms, and some horticultural enterprises, are run commercially and provide realistic working environments for practical classes and industrially relevant physical and financial data which students can use in their assignments. College farms carry a wider range of enterprises than most commercial farms in order to cover the main areas of the curriculum.

60 Most colleges have systematically developed their estates to support new courses. Estates now provide a wide diversity of habitats, including grassland, woodland, game and water facilities. A significant number of colleges have undertaken projects to develop pond habitats and hedgerows on their farms. These projects provide an effective resource for many of the practical and project activities essential to the development of countryside and environmental management skills. In addition to their own farms and grounds, the colleges often make

extensive use of other local farms and off-site facilities to complement their own resources. Agriculture students visit local farms to carry out non-repeatable stock tasks, such as calf dehorning and castration.

61 College grounds and horticultural units contain an extensive range of plants which students use in identification exercises and other practical activities. Floristry students usually have good specialist resources, although the lack of convenient storage facilities and of opportunities for retail experience are common weaknesses. In almost all colleges, there is a good supply of fresh and dried flowers and sundries. Most colleges offering courses in equine studies have invested heavily in resources in recent years and facilities are of a high standard. There are good stables and good indoor and outdoor areas for schooling horses. Colleges rely heavily on horses which are loaned to them. Many of these are older animals which have been retired from competition and are suitable for use in teaching. The majority of colleges have good facilities to support courses in animal care. Others have launched courses with insufficient specialist resources. Few colleges have the facilities to enable students to develop skills in the care and management of dogs and cats.

62 Some agriculture and horticulture equipment is outdated and few colleges have a planned programme to update or replace key items of equipment. In many cases the deficiencies are made up by borrowing equipment from local employers for use either on the college site, or on the employer's premises.

Learning Resources

63 All colleges, including the specialist institutions have expanded and improved their library and learning resource provision. However, in many agriculture and horticulture colleges, these facilities are heavily used and are often overcrowded at peak times. The range and quality of books and other learning material is generally adequate for

agriculture and horticulture but there are shortages in subjects where student numbers have recently expanded.

64 Colleges have invested heavily in information technology equipment and in most cases, the number of computers adequately meets current demand. However, some computers are held in rooms in which classes regularly take place and students who wish to work on their own cannot gain access to them. This is adversely affecting the development of their information technology skills. Students also suffer the lack of opportunity to gain experience of the commercial software used in their vocational area.

Accommodation

65 Most teaching accommodation is of a good standard. Many rooms have recently been refurbished and in a number of specialist colleges, farm buildings have been redeveloped to provide classrooms. However, in some colleges, classrooms are located too far away from the relevant practical facilities, and some temporary accommodation is cold and uninviting. A particular difficulty for many of the specialist colleges is that they do not have enough rooms of a size suitable for teaching the larger groups of students.

66 Access to much of the accommodation in the specialist colleges is difficult for students with restricted mobility. Most new accommodation has been designed with wheelchair users in mind, and some improvements to existing accommodation are being carried out, particularly to provide better access to libraries and computer rooms. The nature of many of the older buildings, however, makes conversions and adaptations difficult.

CONCLUSIONS AND ISSUES

67 The quality of provision is generally sound. However, the proportion of higher inspection grades (grades 1 and 2) awarded to curriculum areas and lessons within the agriculture programme area is lower than the average for all programme areas.

68 Some of the particular challenges faced by colleges of agriculture and horticulture include:

- the reduction in the high level of cost for each student since incorporation
- the decline in demand for some courses in agriculture and horticulture and the need to develop quickly new courses in other subject areas to achieve growth targets
- the small size of the colleges, which means that managers and teachers must cover a wide range of responsibilities
- the rural location and wide catchment area of the colleges which makes transport difficult and expensive for many students
- the reduction in the number of discretionary awards for students
- the low numbers on many courses
- courses which are costly to deliver.

69 Some colleges have risen to the challenge, developing effective management structures and producing clear, forward-looking strategic plans. They have built on the traditional strengths of agricultural education, which include:

- effective links with industry, and an involvement by employers in the teaching and promotion of learning

-
- technically knowledgeable teachers who understand the needs of employers
 - the effective use of college estates for teaching purposes
 - good staff-student relationships
 - the high standards which students achieve in their practical work and assignments
 - the availability of employment-related certification of knowledge and skills which students can acquire in addition to their vocational qualifications
 - the range of activities undertaken by students outside lessons which relate to their future employment.

70 Despite strenuous efforts, some institutes have had difficulty managing change effectively and this has affected the quality of work. Weaknesses include:

- insufficient attention to students' previous experience when planning their learning programmes
- a failure to meet the varying learning needs of students
- inconsistent, and in some cases inadequate tutorial procedures
- a failure to review curriculum content and adjust teaching methods when the number of taught hours on courses is reduced
- confusion over the purposes and levels of some courses, and the progression routes through them.

71 The period of change is by no means over for the colleges. Skilful and imaginative planning and management will increasingly be required if the needs of employers and students are to continue to be met.

STATISTICAL SUMMARY

Table 1. Number of students on FEFC-funded agriculture and horticulture courses, 1994-95

	<i>Full time</i>	<i>Agriculture and horticulture students as % of all students</i>	<i>Part time</i>	<i>Agriculture and horticulture students as % of all students</i>
Agriculture and horticulture colleges	8,900	76%	19,700	68%
Other further education colleges	2,200	< 1%	9,100	< 1%
Total	11,100		28,800	

Source: college strategic plans, July 1995 and February 1996

Table 2. Number of students on all agriculture and horticulture courses, 1994-95

	<i>Full time</i>	<i>Agriculture and horticulture students as % of all students</i>	<i>Part time</i>	<i>Agriculture and horticulture students as % of all students</i>
Agriculture and horticulture colleges	10,800	75%	34,700	62%
Other further education colleges	2,400	< 1%	14,300	< 1%
Total	13,200		49,000	

Source: college strategic plans, July 1995 and February 1996

Table 3. Number of full-time agriculture and horticulture students, 1993 to 1996

	<i>Mode of attendance</i>	<i>1993-94</i>	<i>1994-95</i>	<i>1995-96</i>	<i>Change 1993-94 to 1994-95 (%)</i>	<i>Change 1994-95 to 1995-96 (%)</i>
All						
provision	Full time	12,500	13,200	15,700	+ 6	+ 19
	Part time	40,100	49,000	47,200	+ 22	- 4
	Total	52,600	62,200	62,900	+ 18	+ 1
FEFC-funded						
provision	Full time	11,400	11,100	13,400	- 3	+ 21
	Part time	23,200	28,800	27,700	+ 24	- 4
	Total	34,600	39,900	41,100	+ 15	+ 3

Source: college strategic plans, July 1994; college strategic plans, July 1995; and college strategic plans, February 1996

Note: July 1994 strategic plan enrolments are converted to student numbers on the basis that one full-time enrolment is equivalent to one student and 1.14 part-time enrolments are equivalent to one student; two colleges have not returned February 1996 strategic plan data; these colleges have been excluded

Table 4. Distribution of colleges by size of agriculture and horticulture provision, 1994 to 1996

<i>Number of students</i>	<i>Number of colleges</i>	
	<i>1994-95</i>	<i>1995-96</i>
1 to 100	110	110
101 to 250	27	35
251 to 500	12	15
501 to 999	11	9
1,000 and over	24	26
Total making provision	184	195

Source: college strategic plans, July 1995 and February 1996

Table 5. FEFC funding for colleges

	<i>Number</i>	<i>Average funding per college (£)</i>		<i>Mean actual ALF (£) based on actual cash received</i>		<i>% change in ALF</i>
		<i>1994-95</i>	<i>1995-96</i>	<i>1994-95</i>	<i>1995-96</i>	
		Agriculture and horticulture colleges	32	1,968,800	2,045,800	
All colleges	440	5,811,600	6,155,400	19.39	18.49	- 4.6%

Source: funding allocations, 1994-95 and 1995-96

AGRICULTURE AND HORTICULTURE PROGRAMME AREA: OVERVIEW OF THE SIX SECTORS

Countryside and Environmental Management

Over the past few decades, there have been substantial changes in the rural population, employment and the environment. Many of these changes are predicted to continue into the next century and will have a profound influence on traditional rural jobs and the new jobs in conservation, tourism, countryside sports, forestry, rural crafts/farm shops and other farm-based activities.

Employment in wildlife conservation is small in comparison with country sports and forestry. A survey for the Nature Conservancy Council calculated that there were some 1,600 full-time equivalent jobs in mainstream conservation bodies. Country-based wildlife groups which employ small numbers of full-time staff are on the increase. Whilst it is difficult to disaggregate specific numbers, many of those engaged in conservation work are employed by major charities. Some 946,000 people were employed in the charity sector in 1990. The National Trust spent about £30 million in 1994-95 on aspects of conservation work, including coastal footpaths.

Rural tourism is a key sector of the tourism industry. The Rural Development Commission estimates that it is worth at least £8 billion a year to England's rural areas, generating some 400,000 jobs. The sector is fragmented and is dominated by small businesses.

Country sports are an important and growing aspect of rural recreation. One recent survey calculated that some 4.5 million people in the United Kingdom take part in countryside sports. The study calculates that this generates some 45,000 jobs and as many again are engaged in indirect support of these activities.

The forestry and wood processing industry employs some 40,000 people. Most of the forestry planting since the 1939–45 war has been in remote upland areas, where alternative employment to agriculture is mostly absent. About half those employed in the industry are engaged in forestry, the other half in wood processing activities. The number of foresters employed on estates declined by about 40,000 between 1986 and 1994.

Much farm-based work, equivalent to about 80,000 full-time jobs, is now concerned with activities such as woodland management, running farm shops, sporting facilities, nature trails and farm holiday cottages. These activities generate approximately £675 million of revenue annually.

Floristry

Floristry includes retailing, processing and delivery of orders, and the negotiating, design and manufacture of floristry products. It is an industry of small businesses: 93 per cent of businesses have a workforce of 10 people or less. Of those employed, 73 per cent work as florists and 34 per cent as managers. Proprietors are usually actively involved in the running of their businesses, and are much involved in practical floristry. Nationally there are some 7,000 florists shops and about 30,000 people work in the industry. Since the 1980s, the cut flower and pot plant sales sector of the market has grown but the florists' market share has reduced to 51 per cent, owing to competition from other retail outlets. It is unusual for employees in these other outlets to be trained in floristry. Developing technology means that training in floristry now involves the acquisition of a broad range of knowledge and skills relating to the production and care of flowers and plants.

Agriculture

Although there has been considerable diversification in the rural economy over the last five years, it is farming which remains of primary

importance. In 1993, the value of agricultural output was almost £14 billion, representing 1.4 per cent of gross domestic product (GDP). There is great diversity in the industry which has increased over the last few years as farmers have responded in different ways to external influences. Farming has become increasingly specialist and there has been a considerable development of enterprises to supplement income from farming.

Well over half a million people are employed on farms, about 2 per cent of the United Kingdom workforce. Their average age has been rising steadily. By the early 1990s, nearly 20 per cent of farm employees were over 55 years old. Most farms are small, family businesses. Family labour accounts for more than two-thirds of the workforce. About 70 per cent of farms do not employ regular workers, less than 1 per cent employ 10 or more, and over half of employed farm workers work on about 4 per cent of the farms. It is estimated that at least as many people are dependent on farms' associated businesses for employment as those who are engaged directly in farming. Employment in the sectors that serve farming has also increased. The demand for technical and management consultancy has risen with the increasing complexity of the factors influencing farming.

Although the numbers involved in farming have fallen by almost 6 per cent over the last five years, there continues to be a strong demand for qualified students, particularly in specialist areas such as livestock production.

Horticulture

The horticultural industry embraces a wide variety of sectors which involve the production and maintenance of plants. There are some large companies operating nationally, but most businesses are small. Horticultural holdings account for almost 10 per cent of the agricultural workforce. This figure does not include the substantial number of

workers employed during peak harvesting periods. Most sectors rely heavily on manual labour and the increasing cost of this and keen competition from imports has resulted in increasing levels of specialism.

It is estimated that there are currently 36,000 workers employed in the production of fruit and vegetables, of whom 16,000 are casual workers. Fruit production includes top fruit orchards consisting of 26,870 hectares and representing about 3,200 producers with an average unit size of 12 to 15 hectares, and soft fruit plantations consisting of 12,721 hectares and involving an estimated 4,000 producers with an average unit size of four to six hectares.

The English bedding and pot plant industry has seen recent expansion in excess of £400 million. Production of garden trees and shrubs has an estimated annual sales value of £1 billion. The garden centre industry consists of a diverse range of outlets from the out-of-town 'leisure' centre to specialist plant centres. It is estimated that there are between 2,500 and 2,700 centres including national chains. Several of these also produce the plants they sell. The Horticultural Trades Association estimates that the industry requires approximately 400 further education students each year.

The industry lead body for amenity horticulture represents over 2,500 golf club employers and their approximately 13,000 employees. The Institute of Groundsmanship estimates that there are 85,000 to 90,000 groundsmen employed in the United Kingdom. Some 30 per cent of the net expenditure of the local authorities in England and Wales goes towards outdoor sport.

The Landscape Institute estimates that there are approximately 2,400 landscape designers and consultants on its register and about 400 registered design companies. There are 464 landscape construction companies registered with the British Association of Landscape Industries. Large multinational companies are involved in landscaping, but landscape construction companies typically employ from 5 to 10

people. There are likely to be many one-man operations which are unregistered.

Animal Care

The industry is made up of a diverse range of services for the care of animals. Most organisations have few employees. The largest employers are the national charitable organisations which employ staff in their regional or local centres. Employment is mainly in veterinary practices, rescue services and other charitable organisations, kennels and catteries, pet stores, grooming parlours, law enforcement agencies, zoos, safari parks and wildlife sanctuaries.

In some areas of animal care work it is difficult to calculate the number of jobs because employment is seasonal. The workforce is predominantly female with the exception of those working as dog wardens, in zoos, in the RSPCA inspectorate and in the forces. Different occupations have differing and specific training needs. Some industry groups, including the pet trade and dog grooming sectors have developed their own qualifications, predominantly delivered through correspondence courses and experience in the relevant industry.

Equine Studies

The workforce is predominantly female. Most are employed in riding schools and livery yards. There is also a thriving racing and thoroughbred training and breeding sector, normally made up of small businesses with less than 10 employees. The equine industry has a long history in training due to the numbers of people working in riding schools and their need for instructor qualifications. Accurate evaluation of employment levels is difficult as some areas of work, including work in livery yards and with small breeders, are not required to be licensed or affiliated to any organisation. It is estimated that between 100,000 and 120,000 are employed in the equine industry.

INSPECTION GRADES IN THE AGRICULTURE PROGRAMME AREA, 1993-94 to 1995-96

Table 1. Lesson grades

<i>Year</i>	<i>Grade 1</i>	<i>Grade 2</i>	<i>Grade 3</i>	<i>Grade 4</i>	<i>Grade 5</i>	<i>Total</i>	<i>% grades 1 and 2</i>	<i>% grades 4 and 5</i>
1993-94	29	86	64	21	1	201	57	11
1994-95	112	219	154	47	0	532	62	9
1995-96	92	202	158	61	6	519	57	13
Total	233	507	376	129	7	1,252	59	11

Table 2. Curriculum area grades

<i>Year</i>	<i>Grade 1</i>	<i>Grade 2</i>	<i>Grade 3</i>	<i>Grade 4</i>	<i>Grade 5</i>	<i>Total</i>	<i>% grades 1 and 2</i>	<i>% grades 4 and 5</i>
1993-94	6	8	1	0	0	15	93	0
1994-95	2	19	9	0	0	30	70	0
1995-96	1	10	12	1	0	24	46	4
Total	9	37	22	1	0	69	67	1

Table 3. Comparison of agriculture programme area grades with all programme areas

Year	% grades 1 and 2				% grades 4 and 5			
	Lessons		Curriculum areas		Lessons		Curriculum areas	
	Agri.	All	Agri.	All	Agri.	All	Agri.	All
1993-94	57	58	93	65	11	8	0	2
1994-95	62	63	70	71	9	8	0	3
1995-96	57	63	46	68	13	7	4	2

Grade Descriptors

- Grade 1* Provision which has many strengths and very few weaknesses
- Grade 2* Provision in which the strengths clearly outweigh the weaknesses
- Grade 3* Provision with a balance of strengths and weaknesses
- Grade 4* Provision in which the weaknesses clearly outweigh the strengths
- Grade 5* Provision which has many weaknesses and very few strengths.

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