

**TRAINING FUTURE AGRARIANS:
SPECIFICS OF ACADEMIC PROGRAMMES OF BACHELOR'S DEGREES
IN GREAT BRITAIN**

Summary. The article deals with training future agrarians in Great Britain. The aim of the paper is to review specifics of academic programmes of bachelor's degrees with honours in Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences. The academic standards of training future agrarians are taken into consideration. The pedagogical set of tools such as content of professional training future agrarians as well as knowledge, understanding and skills of graduates in specific subject areas are highlighted. Different formats of teaching, learning and assessment are introduced in the papers. As a result of the research we have come to the conclusion that training future agrarians correspondences the needs and aspirations of society and labour market. Moreover it promotes the growth of a graduates' professional approach to lifelong learning.

Keywords: future agrarians, agricultural education, training, academic standards, programmes, bachelor's degree, Great Britain.

Introduction. The necessity to reform and modernize the professional training future agrarians in Ukraine is obvious and urgent as agriculture seems to be an important branch of the domestic economy but it has been crisis-ridden. To overcome the crisis, become an equal partner of international agrarian markets and improve the effectiveness of Ukrainian agri-food production in general new approaches to the professional training human resources for the sector are required [3; 6]. Hence amending the professional training future agrarians is one of the priorities of reforms in high agricultural education. The analysis of foreign achievements in training highly-qualified professionals for agriculture is required. The theory and experience of training future agrarians in Great Britain should be taken into consideration so far as the country is considered to be a "trendsetter" in education [6, 327] and well-known by highly-productive agriculture due to efficient agricultural specialists [3].

Analysis of relevant research. Some aspects of theory and practice of future agrarians' training are highlighted in studies and publications by M. Mulder [4; 5], A. Naidyonova [6] etc. The analysis of background papers is evident that the problem of professional training future agrarians in high educational institutions is discussed in educationalists' groups both in Ukraine and abroad.

The aim of the papers is to analyze training future agrarians in high education of Great Britain. The tasks are 1) to introduce the specifics of academic programmes of bachelor's degrees with honours in Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences; 2) to describe the nature and extent of training future agrarians and the academic standards expected of graduates in particular subject areas; 3) to highlight knowledge, understanding and skills of future agrarians; 4) to represent different formats of teaching, learning and assessment.

The main body. Generally, training future agrarians in Great Britain is provided by different types of educational institutions such as monotechnics (Harper Adams University College, the Royal Agricultural University and Writtle College), university departments and further education colleges (FECs). But there is the growing demand for high level skills for agriculture in Great Britain [7]. The term "high-level skills" is used to cover skills at Level 4 and above such as higher diplomas, bachelor's degrees and postgraduate qualifications.

Certainly, the nature of training varies between the different types of providers. In addition, the range of subjects and disciplines encompassed by agricultural education is very wide. There is, in fact, no universally accepted definition of what constitutes training future agrarians [3]. The modern tendency of training future agrarians has adopted an essentially pragmatic approach and has sought to include subjects which are relevant to both the traditional views (relating to agriculture and food production sectors which focus on land as a resource of production) and others (placing more

emphasis on the importance of land in meeting social, economic and environmental needs) [7]. M. Mulder as a researcher of international agricultural education adds that the most obviously thing about professional training future agrarians is the fact that higher agricultural education needs to deliver graduates who are professionals in their field of study, research and the application of knowledge [5, 25].

Recently agricultural education has diversified greatly. Currently, students can be enrolled both in programs that are directly aimed at jobs and professions in the primary sector and in environmental, food and nutrition, biotechnology, consumer, farm management, economics, sociology, health and communication programs etc. So it can be observed that agricultural education has broadened considerably, and this process is still going on [4, 224]. And this widens the scope of relevant subjects [7].

The confirmation of the tendency above is the fact that according to Joint Academic Coding System (JACS) agricultural programmes of study in Great Britain are generally classified as *Nutrition, Applied biology, Environmental biology, Animal science, Animal health, Animal nutrition, Animal welfare, Integrated agricultural business management, Agriculture, Agriculture and crop science, Crop physiology, Crop nutrition, Crop protection, Crop production, Amenity horticulture, Agricultural and livestock science, Equine studies, Sustainable agricultural and landscape development, Forestry and arboriculture, Food science, Agricultural sciences, International agricultural science, Agricultural botany, Environmental sciences, Soil science, Biotechnology, Garden horticulture, Land and property management, Land management, Others in business and administrative studies* [9].

In this context, for example, the monotechnic Harper Adams University College proposes traditional courses of training future agrarians: *Agriculture, Animal Studies* as well as following in the spirit of the age: *Business and Agri-food; Countryside, Environment and Wildlife; Engineering, Rural Estate and*

Land Management [2]. Such diversification of courses is not a fragmentary thing.

Some papers such as “Review of provision for land-based subjects” [7]; “Subject Benchmark Statement. Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences” [9], “Employability Profile: Agriculture, Forestry, Agricultural Sciences, Food Sciences and Consumer Sciences” [1] and so on have influenced the nature and extent of training of future agrarians in Great Britain.

Fundamentally, “Subject Benchmark Statement. Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences” sets out the expectations that all providers of UK higher agricultural education are required to meet in order to secure threshold academic standards [9].

It should be stressed that in general training future agrarians deals with the subject areas of the land-based industries and professions, related applied and social sciences, rural studies, and consumer sciences and studies. On the whole, bachelor's degrees with honours in Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences are identified in this Subject Benchmark Statement.

The thing of great importance is the fact that the degree programmes of training future agrarians can be described under the following indicative headings: *programmes broadly concerned with land-based industries* (Agriculture and horticulture); *programmes broadly concerned with applied sciences* (Agricultural sciences; Food science, food technology and nutrition); *programmes broadly concerned with the rural environments and sciences* (Rural environmental sciences; Forestry); *programmes broadly concerned with consumer sciences / studies* [9].

Undoubtedly, the subject groups are large and diverse as agri-food sector itself. Basically, training future agrarians in high educational institutions of Great Britain takes account of recent developments in agriculture, horticulture, forestry, food, nutrition science and consumer sciences, as well

as wider developments across higher education. The truth is the fact that these developments include increasing appreciation of the reciprocal relationship between climate change and terrestrial ecosystems and recognition of the benefits that humans derive from the land [9].

It is absolutely clearly that training future agrarians relates to the production of food and non-food products from land resources, consumer products and services, and ecosystem and other services for public benefit. Although the focus changes, each subject encompasses various aspects of production chains involving animals, crops and retail of consumer goods and services. They all involve consumer interactions with producers, service providers and other stakeholders. Sustainable and secure production, consumption and development are important areas of study in these subjects as scarcity of resources impacts on health and well-being of diverse animal and human populations on a global scale, highlighting the need to modify consumer attitudes and behaviour.

In addition to mentioned above all the degree programmes of future agrarians' training are application-orientated, broadly based and require some study across a spectrum of subjects from physics and chemistry through biology to the social sciences, policy, economics, legal and ethical approaches, management and consumer behaviour.

In *programmes broadly concerned with land-based industries*, training future agrarians for *Agriculture and Horticulture* refers the science, occupations, businesses and industries involved with the sustainable generation of food and other products through the management and manipulation of the terrestrial biosphere. Furthermore some other programmes may be broadly concerned with the husbandry, welfare and management requirements of companion animals and animals kept for their athletic abilities or the recreational and sporting interests of their owners. The subjects apply fundamental physical, biological, economic and sociological

principles to sustainable production and land use and consider the global socio-economic and environmental impacts of such management systems.

Programmes of training future agrarians broadly concerned with applied sciences deal with Agricultural sciences as the fundamental sciences of plants, animals, fungi, microorganisms, soils and global processes, which underpin human usage of the biosphere, including the sustainable production or management of animals and plants for food and other products, and the sustainable management of productive resources for economic, social and environmental value.

Training future agrarians for *Food science, food technology and nutrition* is regarded as the understanding and application of a range of sciences to satisfy the needs of society for a sustainable, safe, nutritious and secure food supply chain of adequate quality in relation to the health and well-being of people and ecosystems and understanding key nutritional issues and needs within human or animal populations.

Educationalists, researchers, representatives of business and other stakeholders have noted the growing importance of nutrition within the context of agricultural production, public health and food security [1; 7]. So programme providers have developed food science programmes, nutrition programmes or a combined programmes [2; 8].

Professional education of future agrarians for the sectors *broadly concerned with the rural environments and sciences* concerns training for *Rural environmental sciences and Forestry*.

Rural environmental sciences address the application of fundamental biological, economic and sociological principles to the sustainable management of the environment and countryside in the interests of society as a whole.

Forestry is the application of physical, biological, economic and sociological principles to the sustainable management of trees, woodlands and forests for the benefit of society.

Training future agrarians for the field of *Consumer sciences or studies* are defined as interdisciplinary subjects that seek to understand the relationships between the consumer and the economic, legal, social, technical, ethical and environmental forces that influence the development, provision and consumption of goods and services.

A diversity of employer needs is reflected in the programme designs. This, and the interdisciplinary nature of this provision, enhance graduate employability [1; 9]. Besides mentioned programmes of study provide a period of work placement [2; 8] and graduates have wide employment prospects [1].

In spite of the diversity of aspects of training future agrarians, in general programmes share common features of structure, approach and pedagogic philosophy [9].

The important features of training future agrarians in high education in Great Britain refer the relevance and application of the appropriate subjects in the frame of agri-food sector; the development of integrated, multidisciplinary and interdisciplinary and interprofessional approaches; integration of theory, experiment, investigation and fieldwork, and the development of principles into practice; quantitative and qualitative approaches to information; an understanding of the importance of entrepreneurship and innovation; awareness of risks of exploitation and the requirement for sustainable solutions; consideration of rapid and continuing change and development of the subjects [9].

What is the thing of great importance is the fact that each degree programme addresses the underlying principles of the subject; its relevant defining concepts, theories and methods; the current knowledge and development of the subject; identification of current gaps in knowledge or understanding and current issues of wider concern to society and the world; the global, regional and local contexts of the topic; the location of resources, and the management, exploitation and pattern of utilisation of resources

within socio-economic, policy and legal frameworks; subject-specific and generic skills, problem solving and a professional approach to study and lifelong learning; an understanding of issues of sustainability and environmental impact [9].

In the context of pedagogical methodology training future agrarians in high educational institutions of Great Britain deals with *abilities and skills*. Thus the providers of high agricultural education stipulate during the course of degree programmes the development of the wide spectrum of the abilities and skills for the sectors of Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences. The abilities and skills are subdivided into: *intellectual, practical, analytical and data interpretation, communication, digital literacy and social media, interpersonal and teamwork, self-management and professional development skills*.

Certainly, these skills are generally developed in a subject-specific context, but they have wider applications for continuing personal development and in the world of work. The subject skills encompass technical knowledge and abilities specific and appropriate to the focus of the degree programme. In addition, each individual programme develops a capacity for holistic and lateral thinking and an appreciation of both inductive and deductive reasoning.

According to the British tradition of professional training future agrarians standards of attainment are expressed as statements of learning outcomes [9]. These describe what a student should be able to demonstrate on completion of an honours degree in the range of subjects covered by the particular degree programme. The outcomes are demonstrable through appropriate assessment strategies. It is important that evaluating levels of student performance high education providers follow the standards of attainment which reflect the shared values of the academic community.

Hence the standards of training future agrarians in high education of Great Britain are articulated at three levels. These are defined as: *threshold*, *typical* and *excellent* ones.

Threshold standard is the minimum required to gain an honours degree. Graduates at this level demonstrate an acceptable level of ability and skills.

Typical standard is the level of attainment expected of the majority of honours graduates. Such graduates demonstrate definite competence and skills

Graduates achieving *excellent standard* have a range of competencies and skills at an enhanced level.

Normally to reach a given standard at the point of completion of an honours degree in Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences, students demonstrate achievement across the main categories of abilities and skills, interpreted for the particular degree programme. However, a lower performance in one category may be compensated for by a higher performance in another [9].

Many different formats for teaching and learning aid the development of subject-specific knowledge and abilities, and generic skills of future agrarians. High education programmes in Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences incorporate a *research project* or other self-motivated individual study leading to a *thesis, dissertation or report*. In addition to listed above degree programmes of future agrarians' training also contain most, but not necessarily all, of: *lectures, tutorials and seminars, student-led seminars, specialist external lectures, practical classes in and outside the laboratory (defined broadly and including the computing laboratory and other specialist facilities), literature-based research, field-based research, e-learning technologies including the use of virtual learning environments, case studies, problem solving, problem-based learning, working in groups on realistic (live) projects with external organisations, other exercises which require students to integrate information and techniques,*

directed self-study, visits to commercial and industrial businesses, consumer organisations, public services, policy-making bodies and research organisations, opportunities for work experience, for example a managed placement or work-based learning.

Within the total time of professional training, future agrarians can participate in *timetabled activities* such as lectures, seminars, tutorials, practicals and visits for approximately one third of the total time. Thus the majority of activities such as reading around the subject, preparing for tutorials and seminars, preparing for and completing module assessments and revision for, and sitting, examinations will take place *outside* of these *scheduled activities*, but are an essential part of a student's learning journey.

Moreover assessment is an important part of training future agrarians in British high education. *Assessments* are *formative* as well as *summative* and are likely to take a number of forms, including *examinations (written, electronic, oral or practical; closed or open book)*, and to incorporate continuous assessment [9].

The style of assessment varies between subjects and higher education providers, but is linked to clearly defined goals and anticipated learning outcomes [2; 8]. Some more important facts should be taken into consideration. Firstly, assessment is managed to promote deep rather than surface learning. Secondly, assessments based on real-life problems, with employer involvement and with effective feedback, are valuable and are included where they are compatible with the assurance of academic standards.

The typical Programmes of training future agrarians in Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences may be of three years' duration of full time study (30 weeks per year for years 1 and 3). Year 2 may include a compulsory industrial placement period of 20 weeks following completion of the examinations. There is also the possibility of an

industrial placement year being taken between years 2 and 3. The programmes consist of modules [8].

For example all full-time academic programmes at the Royal Agricultural University are constructed using a selection of modules, each of which requires engagement with a variety of learning activities. Successful completion of module assessments will result in the award of credits, and students are required to achieve a total of 120 credits for each year of a full-time programme. For the award of BSc (Hons) a total of 360 credits must be gained with 120 at level 4 (first year), 120 at level 5 (second year) and 120 at level 6 (third year). Should a student exit after completion of Year 1 they would be eligible for a Certificate of Higher Education with the accumulation of 120 level 4 credits. Should a student exit after completion of Year 2 they would be eligible for a Diploma of Higher Education with the accumulation of 120 level 4 credits and 120 level 5 credits; 240 in total [8].

Conclusion. As a result of research we have found out the fact that high education providers in Great Britain introduce a range of programmes of training future agrarians in Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences in response to developments in the subjects, changes in the needs and aspirations of society, and opportunities in the graduate labour market. Moreover the ultimate goal of future agrarians' training is the application of knowledge and skills together with an appreciation of the integrative nature of the subject areas in an appropriate context. In addition, as students progress through a degree programme, there is an increasing reliance on student-centred modes of learning, which fosters the development of a professional approach to lifelong learning.

Hence agriculture of Ukraine is under reforming and modernizing, training highly educated and qualified future agrarians is a ground condition for providing the successful increasing of the sector. So analyzing, interpreting and creative implementing the progressive trends of agricultural

education in Great Britain could benefit prospective training future agrarians in Ukraine.

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