



CURRICULUM II DUAL VOCATIONAL TRAINING “FARMER” FOR STUDENTS WITH LEARNING DIFFICULTIES



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MODULAR VOCATIONAL TRAINING PROGRAMME FOR AGRICULTURAL WORKER (FARMER)

National code of the programme and volume in learning credits:

P - programme for vocational training, 60 learning credits

Qualification title - Agricultural worker

Qualification level according to the Lithuanian Qualifications Framework (LQF) - IV

Minimum educational qualifications for the qualification:

P - primary education and secondary education

Professional experience requirements (if applicable) and entry requirements (if applicable) - none



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1. DESCRIPTION OF THE PROGRAMME

Purpose of the Programme. The modular vocational training programme for agricultural workers is designed to train qualified agricultural workers who are able to carry out agricultural, crop, horticultural and horticultural work, to raise and care for farm animals, to use plant protection products professionally, to drive a TR1 tractor, to farm organically and to manage a farm.

Specifics of future work. Once qualified as an agricultural worker, you will be able to work as a hired agricultural worker or as a self-employed farmer.

Typical working tools: personal protective equipment, tractors, other agricultural machinery, implements, equipment, greenhouse machinery, seedlings, seeds, fertilisers, plant protection products, irrigation systems, livestock feed, milking equipment, watering equipment etc.

Typical working conditions: working outdoors and/or indoors, individual and team work.

The agricultural worker's activities are guided by occupational health and safety, ergonomics, occupational hygiene, fire safety and environmental protection requirements. He/she carries out his/her activities independently, assumes responsibility for the quality of the procedures and results of the activities carried out, and takes decisions on the activities carried out.



2. PROGRAMME PARAMETERS

National code	Module title	Level of LTQF	Level Amount of learning credits	Competences	Learning outcomes illustrating achievement of competences
Introductory module (2 learning credits in total)					
	Introduction to the profession	IV	2	Getting to know the profession.	<p>Understand the agricultural occupation and its opportunities in the labour market.</p> <p>Understand the occupational activities, processes, functions and tasks of an agricultural worker.</p> <p>Demonstrate the competences already possessed, acquired informally and/or spontaneously, which are specific to the agricultural worker qualification.</p>
General modules (3 learning credits in total)					
	Safe behaviour in emergencies	IV	1	Behaving safely in emergencies.	<p>Understand the types of emergencies and potential hazards.</p> <p>Know the requirements and instructions for safe behaviour in emergencies, and the audible civil protection signals.</p>
	Occupational safety and health	IV	2	Protect your health and work safely.	Knowledge of occupational safety and health requirements for the workplace.
Modules for the acquisition of the competences that make up the qualification (40 learning credits in total)					
Compulsory (40 learning credits in total)					
	Agriculture	IV	10	To prepare the soil for	Describe the composition, physical properties, types and suitability of soils for growing

				growing agricultural crops.	<p>agricultural crops.</p> <p>Describe the importance of tillage, systems, methods, timing.</p> <p>Apply soil enrichment and fertility improvement measures.</p> <p>Cultivate the soil for the production of crops using basic (arable) tillage technology.</p> <p>Cultivate the soil using non-arable or minimum tillage.</p>
Crop production	IV	10	Plan and implement crop rotations	<p>Explain the meaning, types and specialisation of crop rotations.</p> <p>Identify the importance of selecting counter-seeds and the principles of crop structure.</p> <p>Draw up crop rotation plans.</p>	
			Apply agricultural crop protection measures.	<p>Knowledge of the general characteristics of weeds and control measures.</p> <p>Select plant protection methods for weed control.</p> <p>Control weeds with herbicides.</p>	
			Sowing and maintaining cereal crops.	<p>Describe the types of cereal crops.</p> <p>Carry out sowing operations for cereal crops.</p> <p>Carry out maintenance work on cereal crops in accordance with environmental requirements.</p> <p>Apply plant protection products in an environmentally sound manner.</p>	

	<p>Apply fertiliser to cereal crops in accordance with environmental requirements.</p>
<p>Sowing, planting and maintaining fodder, industrial and oilseed crops.</p>	<p>Describe the types of fodder, industrial and oilseed crops.</p> <p>Sowing and planting of fodder, industrial and oilseed crops.</p> <p>Carry out maintenance of forage, technical and oilseed crops.</p> <p>Apply protective measures for the production of fodder, technical and oilseed crops.</p> <p>Apply fertiliser to fodder, technical and oilseed crops in an environmentally sound manner.</p>
<p>Sowing, planting and caring for medicinal and herbal plants.</p>	<p>Describe the types of medicinal and herbaceous plants and how to sow and plant them.</p> <p>Perform maintenance work on medicinal and herbal crops.</p> <p>Apply protective measures to the cultivation and storage of medicinal and herbaceous plants.</p> <p>Apply fertiliser to medicinal and herbaceous plants in an environmentally sound manner.</p>
<p>Harvesting and managing cereals and other agricultural crops.</p>	<p>Selecting the time, means and method of harvesting.</p> <p>Apply the requirements for storage and preparation for marketing of crop produce.</p> <p>Prepare for storage and marketing the crop according to</p>

					quality requirements.
				Harvesting and managing garden plants.	<p>To determine the timing, means and methods of harvesting vegetable crops.</p> <p>Explain the storage and marketing requirements for horticultural produce.</p> <p>Apply the requirements for harvesting and transporting horticultural crops.</p> <p>Apply quality requirements to horticultural produce.</p> <p>Prepare harvested horticultural crops for storage and marketing.</p>
				Harvesting and managing garden plants.	<p>Apply the requirements for harvesting and transporting horticultural plants.</p> <p>Prepare horticultural produce for storage.</p> <p>Prepare horticultural produce for marketing</p>
Raising and maintaining farm animals	IV	10		Preparing and storing feed for farm animals.	<p>Compare the composition, properties and nutritional value of feedstuffs.</p> <p>Explain the criteria for rationing and rationing of farm animals.</p> <p>Classify feedstuffs into groups according to their properties.</p> <p>Evaluate the hygiene requirements and quality of feed in a sensory manner.</p> <p>Calculate the annual requirement for feed/feed for farm animals.</p>



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	To carry out feed accounting.
Raising beef cattle.	<p>Describe the breeds of beef cattle and the principles of herd formation.</p> <p>Explain the performance criteria for beef cattle.</p> <p>Explain the welfare requirements for beef cattle.</p> <p>To carry out the marking and registration of cattle.</p> <p>Form a herd of beef cattle.</p> <p>Feeding beef cattle according to rations.</p> <p>Determine the criteria for welfare requirements for beef cattle.</p> <p>To prepare beef cattle for marketing.</p>
Raising dairy cattle.	<p>Describe dairy cattle breeds and exterior characteristics and condition.</p> <p>Explain the principles of dairy cattle breeding.</p> <p>Explain the welfare requirements of dairy cattle.</p> <p>Identify the exterior linear features and condition of dairy cattle.</p> <p>To carry out a study on the performance of lactating cows.</p> <p>Form a dairy herd.</p> <p>To establish diets for dairy cattle.</p>



	<p>Feeding dairy cattle according to the rations formulated.</p> <p>Establish criteria for the welfare requirements of dairy cattle.</p>
Raising pigs.	<p>Describe pig breeds and performance.</p> <p>Explain the pig breeding process.</p> <p>Explain the welfare requirements for pigs.</p> <p>To carry out the marking and registration of pigs.</p> <p>Form a herd of pigs.</p> <p>Formulate diets for pigs.</p> <p>Feeding pigs according to the rations provided.</p> <p>Determine the criteria for pig welfare requirements.</p> <p>Prepare pigs for marketing.</p>
Raising birds.	<p>Describe bird species, breeds and crosses and productivity.</p> <p>Explain the peculiarities of flock formation.</p> <p>Explain the specifics of bird feeding and welfare requirements.</p> <p>Flock formation.</p> <p>Formulate diets for birds.</p> <p>Feed birds according to the rations provided.</p> <p>Determine the criteria for the welfare requirements of birds.</p>

	Organic farming	IV	5		Prepare birds and eggs for marketing.
				Organise crop production in accordance with the principles of organic farming.	<p>Knowledge of organic farming and certification requirements.</p> <p>To select crop production techniques on organic farms.</p> <p>Establish crop rotations on organic farms to reduce crop weediness.</p> <p>Evaluate the specificities of the production and acquisition of organic propagation material and seed.</p> <p>Harvesting and storage of organic produce.</p>
				Use plant protection products and fertilisers according to organic production requirements.	<p>Describe the authorised uses of plant protection products and techniques on an organic farm.</p> <p>Apply the principles of plant nutrition and protection on an organic farm.</p> <p>Carry out fertilisation and plant protection operations on the farm.</p> <p>Maintain crops on an organic farm.</p>
				To organise livestock production in accordance with the principles of organic farming.	<p>Explain the requirements of organic farming for livestock farms.</p> <p>Explain the requirements for the production of organic and national quality animal products.</p> <p>Explain the requirements for the management of organic</p>



				<p>fertilisers.</p> <p>Select the specialisation of an organic farm and the most appropriate species and breeds of farm animals.</p> <p>Carry out the certification of the organic livestock holding.</p> <p>Produce small quantities of organic animal products of exceptional (national) quality.</p> <p>Establishing sensory quality indicators for organic animal products.</p> <p>Keeping the records of the organic livestock holding.</p> <p>Determine the parameters of organic fertiliser tanks.</p>
			<p>Ensuring the welfare of farm animals through organic farming.</p>	<p>Explain the ecological and national specific requirements for farm animal nutrition.</p> <p>Explain the ecological and national specific requirements for keeping farm animals.</p> <p>Explain the requirements for the use of veterinary medicines on an organic farm.</p> <p>To formulate diets for farm animals in accordance with the organic and national specific quality requirements.</p> <p>Feeding organic feed to farm animals in accordance with the rations drawn up.</p> <p>Feeding organic feed to poultry in accordance with the rations</p>

					<p>drawn up.</p> <p>Establish criteria for the keeping of livestock in accordance with organic requirements.</p> <p>Establish criteria for the keeping of pigs in accordance with organic requirements.</p> <p>Establish criteria for keeping poultry in accordance with organic requirements</p>
	<p>Driving tractors in category TR1</p>	<p>III</p>	<p>5</p>	<p>Operate tractors in category TR1.</p>	<p>Describe the construction and operation of tractors of category TR1 (up to 60 kW), the principles of mounting mechanisms on tractors of category TR1 (loaders, excavators, bulldozers, etc.).</p> <p>Knowledge of road traffic rules, road safety rules.</p> <p>Knowledge of occupational health and safety and environmental requirements for the operation of TR1 tractors, tractor-trailer combinations and agricultural machinery.</p> <p>Describe the construction and operation of agricultural machinery.</p> <p>Describe the general requirements for the carriage of dangerous goods and the design and operation of trailers and their assemblies.</p> <p>Operate, program and control TR1 tractors and tractor-trailer combinations.</p> <p>Operate agricultural machinery.</p>



					<p>Operate tractors of category TR1 with mounted machinery.</p> <p>Transport dangerous goods.</p>
				Maintain TR1 category tractors.	<p>Explain the maintenance of TR1 tractors, trailers, mounted machinery and agricultural machinery according to the manufacturer's requirements.</p> <p>Explain the diagnostic features and troubleshooting of TR1 tractors and agricultural machinery.</p> <p>Maintain TR1 tractors, trailers, mounted machinery and agricultural machinery in accordance with the manufacturer's requirements.</p> <p>Use consumables and chemicals in accordance with occupational health and safety and environmental requirements.</p> <p>Identify and rectify minor faults on TR1 tractors and agricultural machinery.</p> <p>Prepare TR1 tractors, trailers, mounted machinery and agricultural machinery for transport and storage.</p>
Optional modules (10 learning credits in total)					
	Growing ornamental plants	III	5	Prepare the soil and substrates for growing ornamental plants.	<p>Describe soil and substrate preparation techniques for growing ornamental plants outdoors and in greenhouses.</p> <p>Establish a crop rotation.</p> <p>Prepare the substrate for growing ornamental plants</p>

					<p>outdoors and in greenhouses.</p> <p>Carry out soil preparation for planting ornamental plants.</p>
				<p>Propagate and grow ornamental plants.</p>	<p>Describe the groups of ornamental plants, their propagation methods and cultivation techniques.</p> <p>Propagate ornamental plants by seed and vegetative propagation.</p> <p>Apply measures to protect ornamental plants against pests and diseases and to control weeds.</p> <p>Maintain ornamental plants in the field and in the greenhouse during the growing season.</p>
				<p>Shape ornamental plants.</p>	<p>Describe the ways in which ornamental plants are shaped.</p> <p>Select tools and instruments for shaping ornamental plants.</p> <p>Perform formative, maintenance and restorative pruning of ornamental plants.</p>
				<p>Prepare ornamental plants for marketing.</p>	<p>Describe the requirements for harvesting, storage and transport of ornamental herbaceous and woody plants.</p> <p>Prepare de</p> <p>corticated herbaceous and woody plants for storage and transport in accordance with the requirements.</p> <p>Prepare ornamental plant seedlings for marketing in accordance with quality</p>

					requirements.
	Raising sheep	IV	5	Establishing the sheep's diet and feed rationing.	<p>Explain the specifics of feeding sheep during the barn and grazing periods.</p> <p>To establish rations for different groups of sheep for different purposes.</p> <p>To prepare suitable feed for sheep.</p>
				Look after the sheep.	<p>Describe sheep breeds and their characteristics.</p> <p>Apply basic indoor microclimate parameters and indoor disinfection requirements.</p> <p>Care of sheep.</p> <p>Apply manure removal and storage techniques.</p>
				Shearing sheep, sorting wool.	<p>Know the properties of wool.</p> <p>Perform sheep shearing.</p> <p>Sort and process wool.</p>
				Milking sheep, initial milk preparation.	<p>Describe sheep milking machines and equipment.</p> <p>Perform sheep milking.</p> <p>Process sheep milk.</p>
				Slaughter sheep.	<p>Knowledge of sheep slaughtering technology.</p> <p>Perform sheep slaughter.</p> <p>Sort sheep meat according to quality requirements.</p> <p>Apply the techniques used in the processing of hides and</p>

					skins.
	Driving tractors of category TR2	III	5	Drive tractors of category TR2	<p>Describe the design and operation of tractors of category TR2 (60 kW and above) and the principles of mounting mechanisms on TR2 tractors (loaders, excavators, bulldozers, etc.).</p> <p>Knowledge of the occupational health and safety and environmental requirements for the operation of TR2 tractors, tractor/trailer combinations and agricultural machinery.</p> <p>Describe the design and operation of agricultural machinery.</p> <p>Describe the general requirements for the carriage of dangerous goods, trailers designed for the carriage of dangerous goods and the construction and operation of their components.</p> <p>Operate, program and control tractors of category TR2 and their combinations with trailers.</p> <p>Operate agricultural machinery.</p> <p>Transport goods using tractors and their combinations with trailers of category TR2.</p> <p>Operate a category TR2 tractor with mounted machinery.</p> <p>Transport dangerous goods.</p>
				Maintain TR2 category tractors.	Explain the maintenance of TR2 tractors, trailers, mounted machinery and agricultural



					<p>machinery according to the manufacturer's requirements.</p> <p>Explain the diagnostic features and troubleshooting of TR2 tractors and agricultural machinery.</p> <p>Maintain TR2 tractors, trailers, mounted machinery and agricultural machinery in accordance with the manufacturer's requirements.</p> <p>Use consumables and chemicals in accordance with occupational health and safety and environmental requirements.</p> <p>Identify and rectify minor faults on TR2 tractors and agricultural machinery.</p> <p>Prepare TR2 tractors, trailers, mounted machinery and agricultural machinery for transport and storage.</p> <p>Describe the construction and principles of operation of self-propelled agricultural machinery of category SZ.</p> <p>Understand the occupational health and safety and environmental requirements for the operation of category SZ self-propelled agricultural machinery.</p> <p>Operate, program and monitor the operation of category SZ self-propelled agricultural machinery and its components.</p> <p>Explain the maintenance of category SZ self-propelled</p>
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					<p>agricultural machinery in accordance with the manufacturer's requirements.</p> <p>Explain the operation, adjustment, diagnostics and troubleshooting of category SZ self-propelled agricultural machinery.</p> <p>Maintain category SZ self-propelled agricultural machinery in accordance with the manufacturer's requirements.</p> <p>Use, store and dispose of consumables and chemicals in accordance with occupational health and safety and environmental requirements.</p> <p>Identify and rectify minor faults on category SZ self-propelled agricultural machinery.</p> <p>Prepare category SZ self-propelled agricultural machinery for transport and storage.</p>
Final module (5 learning credits in total)					
	Introduction to the labour market	IV	10	Build work skills in a real workplace.	<p>To assess and demonstrate the competences acquired in the real workplace.</p> <p>To familiarise yourself with the specifics of your future job and adapt to the real workplace.</p> <p>To assess personal opportunities for integration into the labour</p>



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3. RECOMMENDED SEQUENCE OF MODULES

National code	Module name	LTKS level	Coverage in learning credits	Requirements for personal readiness to study in the module (if applicable)
Introductory module (2 learning credits in total)				
	Introduction to the profession	IV	2	Not applicable.
General modules (3 learning credits in total)				
	Safe behaviour in emergencies	IV	1	Not applicable.
	Darbuotojų sauga ir sveikata	IV	2	Not applicable.
Modules for the acquisition of the competences that make up the qualification (50 learning credits in total)				
Compulsory (40 learning credits in total)				
	Agriculture	IV	10	Not applicable.
	Crop production	IV	10	Completed module Agriculture.
	Raising and care of farm animals	IV	10	Not applicable.
	Organic farming	IV	5	Not applicable.
	Driving tractors of category TR1	III	5	Not applicable.
Optional modules (10 learning credits in total)				
	Growing and maintaining ornamental plants	III	5	Not applicable.
	Raising sheep	IV	5	Not applicable.



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	Driving tractors of category TR2	III	5	This module is complete: Driving tractors in category TR1
	Driving self-propelled agricultural machinery of category SZ	III	5	This module is complete: Driving tractors in category TR1
Final module (5 learning credits in total)				
	Introduction to the labour market	III	5	Completion of all the compulsory modules that make up the agricultural worker (farmer) qualification.

4. PROGRAMME MODULE DESCRIPTIONS

4.1. INTRODUCTORY MODULE

Module LTKS level	IV	
Coverage in learning credits	2	
Competences	Learning outcomes	Recommended content for achieving the learning outcomes
1. Know the profession.	1.1 Have an understanding of the agricultural occupation and its opportunities in the labour market.	<p>Topic. The agricultural worker profession, its specifics and labour market opportunities</p> <ul style="list-style-type: none"> - Concept of the agricultural worker profession - Specifics of the work of an agricultural worker, personal qualities, entrepreneurial skills - Labour market opportunities in the agricultural occupation
	1.2 Understand the professional activities, processes, functions and tasks of an agricultural worker.	<p>Topic. Processes, functions and tasks of an agricultural worker</p> <ul style="list-style-type: none"> - Processes and functions and tasks performed by agricultural workers in the workplace - Processes, legal framework for agricultural worker activities - Requirements for the agricultural worker
	1.3. Demonstrate the competences already possessed, acquired informally and/or	<p>Topic. Modular vocational training programme for agricultural workers</p> <ul style="list-style-type: none"> - Aims and objectives of the training

	<p>spontaneously, that are specific to the agricultural worker qualification.</p>	<p>programme</p> <ul style="list-style-type: none"> - Forms and methods of teaching, criteria for assessing learning outcomes, forms/methods of demonstrating learning skills - Individual learning plans - Familiarisation with the practical training environment <p>Topic. Assessment of existing skills acquired spontaneously or informally</p> <ul style="list-style-type: none"> - Methods of assessing the competences available - Assessment of skills acquired spontaneously or informally
<p>Criteria for assessing learning outcomes</p>	<p>The proposed grade for the introductory module is credit/no credit.</p>	
<p>Requirements for methodological and material resources for teaching</p>	<p>Teaching (training) materials:</p> <ul style="list-style-type: none"> - Modular vocational training programme for agricultural workers - Textbooks and other teaching materials - Test to assess the competences acquired <p>Teaching(training) tools:</p> <ul style="list-style-type: none"> - Technical tools to illustrate, visualise and present the training material. 	
<p>Requirements for the theoretical and practical training site</p>	<p>A classroom or other room equipped with technical means (computer, internet access, multimedia projector) for presenting teaching/learning materials.</p> <ul style="list-style-type: none"> - A classroom/room for practical training, equipped with visual teaching material: samples of seeds, agricultural crops and fertilisers. Machines for tillage, sowing, crop maintenance and harvesting. 	



<p>Requirements for teachers' subject-specific training (subject-specific qualifications)</p>	<p>The module can be taught by a teacher who has:</p> <ol style="list-style-type: none"> 1) the education and qualification set out in the Law on Education of the Republic of Lithuania and in the Description of Requirements for the Qualification of Teachers, approved by the Order of the Minister of Education and Science of the Republic of Lithuania No V-774 of 29 August 2014 on the approval of the Description of Requirements for the Qualification of Teachers; 2. a degree in agricultural studies or equivalent, or secondary education and a qualification as an agricultural production business worker or equivalent, at least 3 years of professional experience in agricultural work and a certificate of completion of a course in pedagogical and psychological knowledge.
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4.2. MODULES FOR THE ACQUISITION OF THE COMPETENCES THAT MAKE UP THE QUALIFICATION

4.2.1. Compulsory modules

Module title: 'Agriculture'

Module LTKS Level IV		
Learning credits 10 credits (Theory: 44 hours (20 per cent theory); Practice: 176 hours (80 per cent practice))		
Competences	Learning outcomes	Recommended content for achieving the learning outcomes
1. Prepare the soil for growing agricultural crops.	1.1 Describe the composition, physical properties, types and suitability of soils for growing agricultural crops.	<p>Topic. Soil composition and properties</p> <ul style="list-style-type: none"> - Physical composition and mechanical properties of soil - Morphological structure of soil - Granulometric composition of soil - Chemical and physical properties of soil



		<ul style="list-style-type: none">- Soil organic matter- Agronomic soil structure- Soil protection <p>Topic. Soil and its classification</p> <ul style="list-style-type: none">- Soil and its significance- Types of soils- Suitability of soils for the cultivation of agricultural crops
	<p>1.2 Describe the importance of tillage, systems, methods, timing</p>	<p>Topic. The importance of tillage</p> <ul style="list-style-type: none">- Aims and objectives of tillage- The importance of tillage <p>Topic. Tillage systems</p> <ul style="list-style-type: none">- Classification of modern tillage systems, features- Characteristics of hilly, sandy and peaty soils <p>Topic. Tillage methods</p> <ul style="list-style-type: none">- Shaving- Ploughing- Deep loosening- Cultivation- Hoeing- Ironing- Rolling- Cultivation with compound implements <p>Topic. Tillage time</p> <ul style="list-style-type: none">- Influence of soil condition on tillage

		<p>time</p> <ul style="list-style-type: none"> - Selection of the main tillage time - Selecting the timing of pre-sowing tillage - Tillage methods according to timing
	<p>1.3 Apply soil enrichment and fertility improvement measures.</p>	<p>Topic. Soil agrochemical properties</p> <ul style="list-style-type: none"> - The importance of major nutrients and their changes in soil - Influence of soil acidity (pH) on soil richness - Humus content <p>Topic. Measures to improve the soil and increase its fertility</p> <ul style="list-style-type: none"> - Fertilisation of the soil with organic and mineral fertilisers - Liming acid soils - Reclamation - Irrigation - Crop rotation - Shallow tillage
	<p>1.4 Cultivate soil for crop production using basic (arable) tillage technology.</p>	<p>Topic. Soil tillage requirements for basic (arable) tillage technology</p> <ul style="list-style-type: none"> - Objectives and methods of basic (arable) tillage - Agrotechnical requirements for tillage using basic (arable) tillage technology <p>Topic. Tillage by mechanical means</p> <ul style="list-style-type: none"> - Turning over the topsoil - Loosening and mixing of topsoil - Compaction of the topsoil

		<p>Topic. Basic (arable) tillage tools and their preparation for use</p> <ul style="list-style-type: none"> - Selection of tillage tools - Main tillage tools and their preparation - Surface tillage and preparation - Topsoil compaction and preparation
	<p>1.5. Cultivate the soil using no-till or direct drilling.</p>	<p>Topic. Near-field tillage</p> <ul style="list-style-type: none"> - Prerequisites for short-term tillage - Characteristics of short-distance tillage - Problems and solutions to short-distance tillage <p>Topic. Tools and preparation for short-distance tillage</p> <ul style="list-style-type: none"> - Selection of tillage tools - Deep no-till tools and their preparation - Shallow no-till and its preparation - Direct drilling in no-till and stubble and their preparation <p>Subject. Tillage using no-tillage</p> <ul style="list-style-type: none"> - Deep no-tillage - Shallow no-tillage - Direct sowing in no-till - Direct drilling into stubble
<p>2. Plan and implement crop rotations.</p>	<p>2.1 Explain the meaning, types and specialisation of crop rotations.</p>	<p>Topic. Concept and essence of crop rotation</p> <ul style="list-style-type: none"> - The importance of crop rotation from an agrotechnical point of view - Crop rotation - The links in the rotation

		<p>Topic. Classification of crop rotations</p> <ul style="list-style-type: none"> - Main features of classification - Crop rotations on hilly land - Specialised crop rotations
	<p>2.2 Identify the importance of pre-selection and the principles of crop structure.</p>	<p>Topic. Choosing prefixes</p> <ul style="list-style-type: none"> - The essence of the value of a precursor - Phytosanitary period - Deseeding, monocrop <p>Topic. Crop structure</p> <ul style="list-style-type: none"> - Factors influencing crop structure - Selection of plants for crop rotation - Crop structure in rotation
	<p>2.3. Establish crop rotation plans.</p>	<p>Topic. Crop rotation</p> <ul style="list-style-type: none"> - Establishing crop rotations according to the most suitable soils - Crop rotations by plant group - Crop rotations according to yield restoration factors <p>Topic. Intercropping in the rotation</p> <ul style="list-style-type: none"> - Winter intercrops - Summer intercrops - Intercrops, stubble intercrops - Intercrop rotations
<p>3. Apply agricultural plant protection products.</p>	<p>3.1 Understand the general characteristics of weeds and control measures.</p>	<p>Topic. Classification of weeds</p> <ul style="list-style-type: none"> - Short-lived and perennial weeds (by biological characteristics) - Monocotyledonous and dicotyledonous weeds

		<ul style="list-style-type: none"> - Classification according to their relationship to the plants among which they grow <p>Topic. Weed control measures</p> <ul style="list-style-type: none"> - Weed control measures for crop plants - Weed control measures - Weed control measures
	<p>3.2 Select plant protection methods to control weeds.</p>	<p>Topic. Plant protection techniques for weed control</p> <ul style="list-style-type: none"> - Mechanical control - Biological method - Physical method - Chemical method <p>Topic. Options for the selection of methods to reduce and eradicate weeds by agrotechnical and biological means</p> <ul style="list-style-type: none"> - Control of weed infestations during the growing season - Influence of harvest time on soil weediness - Influence of manure accumulation and storage method on weed spread - Influence of crop rotation on field weediness - Sowing time and depth of seed placement <p>Topic. Integrated crop protection for weed control</p> <ul style="list-style-type: none"> - Description of integrated management, essence - The main objective of integrated management is to develop a system with

		<p>biological and agrotechnical measures</p> <ul style="list-style-type: none"> - Application of Integrated Pest Management
	<p>3.3. Control weeds with herbicides.</p>	<p>Topic. Chemical weed control</p> <ul style="list-style-type: none"> - Description of herbicides - Classification of herbicides according to extent and mode of action, duration of action, time of application <p>Topic. Herbicide weed control</p> <ul style="list-style-type: none"> - Determination of the conditions of efficacy - Selection of the physical condition of the herbicide - Herbicide spray technology - Preparation of the herbicide for spraying <p>Topic. Protection measures using chemicals</p> <ul style="list-style-type: none"> - Toxicity of herbicides - Personal protective equipment when working with herbicides - First aid in case of chemical poisoning - Environmental requirements when using pesticides
<p>Criteria for assessing learning outcomes</p>	<p>Describes the composition of soils, the physical and mechanical properties of soils, and classifies soils into types according to their suitability for growing agricultural crops. Describes the methods, importance and timing of tillage. Measures to improve the soil and increase its fertility are explained. The timing, methods and implements of tillage are selected. The soil has been cultivated in accordance with the specificities of the agricultural crop production and the tillage system chosen. The importance and types of crop rotations, the importance of the choice of pre-crops and the principles of crop structure are explained. The crop rotations have been established and the appropriate pre-crops have been selected for the crops grown on the farm. The main weeds and their control measures (suppression, eradication) are</p>	

	<p>described. Appropriate plant protection methods and measures for their eradication are applied. Crops are sown directly into stubble and on minimum tillage.</p> <p>Wearing appropriate work clothing and footwear and personal protective equipment. Cleaning and tidying up of tools on completion of work. The work was carried out to a high standard, in accordance with the work technology and occupational health and safety requirements; materials and equipment were selected, prepared and used in a targeted manner.</p> <p>Precise use of technical and technological terms in the national language, communication in accordance with work ethics and culture.</p>
<p>Requirements for methodological and material resources for teaching</p>	<p>Teaching (training) materials:</p> <ul style="list-style-type: none"> - Textbooks and other teaching materials - Test to assess competences - Legislation governing occupational safety and health requirements - Rules of good plant protection practice - Operating instructions for agricultural machinery - Law on Plant Protection of the Republic of Lithuania <p>Training(s) tools:</p> <ul style="list-style-type: none"> - Technical means for illustrating, visualising, presenting the training material - Visual aids, soil monoliths - Tillage machines - Work clothing, footwear, personal protective equipment
<p>Requirements for the theoretical and practical training site</p>	<p>A classroom or other room equipped with technical means (computer, internet access, multimedia projector) for presenting teaching/learning materials.</p> <p>A classroom/room for practical training, equipped with visual aids for the payment of fees, samples of seeds, agricultural crops and fertilisers, tillage machinery and implements (ploughs, cultivators, compound tillage equipment, rollers), tools and equipment for adjusting and preparing the tillage machinery for use, manuals for tillage machinery.</p> <p>Fields suitable for agricultural production.</p>



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<p>Mokytojų konkrečiau dalyko mokymo reikalavimai (dalyko kvalifikacija)</p>	<p>The module can be taught by a teacher who has:</p> <p>1) the education and qualification set out in the Law on Education of the Republic of Lithuania and in the Description of Requirements for the Qualification of Teachers, approved by the Order of the Minister of Education and Science of the Republic of Lithuania No V-774 of 29 August 2014 on the approval of the Description of Requirements for the Qualification of Teachers;</p> <p>2. a degree in agronomy or equivalent, or a secondary education qualification and a qualification as an agricultural production business worker or equivalent, at least 3 years' professional experience in agricultural work, and a certificate of completion of a course in pedagogical and psychological knowledge.</p>
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Module title - "Crop production"

<p>Module LTKS Level IV</p>		
<p>Learning credits 10 credits (Theory: 44 hours (20 per cent theory); Practice: 176 hours (80 per cent practice))</p>		
<p>Competences</p>	<p>Learning outcomes</p>	<p>Recommended content for achieving the learning outcomes</p>
<p>1. Sowing and caring for cereal crops.</p>	<p>1.1 Describe the types of cereal crops.</p>	<p>Topic. Classification of cereal crops according to their bio-economic characteristics</p> <ul style="list-style-type: none"> - Misty cereals, their importance - Bean crops, their significance - Other cereals (buckwheat, vetches) <p>Topic. Classification of cereals according to morphological and biological characteristics</p> <ul style="list-style-type: none"> - Characteristics of cereals in the first group - Characteristics of cereals in the second group



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		<ul style="list-style-type: none"> - Growth and development stages of cereals
	<p>1.2 Carry out sowing of cereal crops.</p>	<p>Topic. Sowing requirements and sowing methods for cereal crops</p> <ul style="list-style-type: none"> - Agrotechnical requirements for sowing cereal crops - Sowing methods for cereals - Seed preparation for sowing <p>Topic. Sowing machines for cereals and their selection</p> <ul style="list-style-type: none"> - Types of sowing machines for cereals (fog and beans) - Design features and selection of sowing machines for cereals (alfalfa and beans) <p>Topic. Preparation of sowing machines for cereals and sowing operations</p> <ul style="list-style-type: none"> - Preparation of sowing machines for cereals (alfalfa and beans) - Sowing of cereal crops - Maintenance of sowing machines for cereals
	<p>1.3 Carry out maintenance work on cereal crops in an environmentally friendly manner.</p>	<p>Topic. Maintenance of cereal crops</p> <ul style="list-style-type: none"> - Crop assessment - Agrotechnical measures for crop maintenance - Herbicide weed control - Prevention of diseases and pests and crop protection - Means, timing and methods of supplementary fertilisation - Environmental requirements for fertilisation and plant protection <p>Topic. Crop care facilities for cereal crops</p> <ul style="list-style-type: none"> - Types of cereal crop maintenance equipment and its selection - Occupational safety and environmental requirements when working with cereal crop protection equipment - Preparation and maintenance of cereal crop maintenance equipment. <p>Topic. Irrigation equipment</p> <ul style="list-style-type: none"> - Irrigation systems - Maintenance of irrigation equipment
	<p>1.4 Apply plant protection products in an environmentally sound manner.</p>	<p>Topic. Diseases of cereals and means of their eradication</p> <ul style="list-style-type: none"> - Main cereal diseases - Non-parasitic diseases - Parasitic diseases - Disease accounting and control

		<ul style="list-style-type: none"> - Disease protection measures Topic. Pests of cereals and their control measures - Main pests and their development - Pest accounting and control - Spraying of plants against pests in compliance with environmental requirements Topic. Weed species and their control in cereal crops - Main weed species in cereal crops - Application of weed control measures - Weed control measures, methods - Crop care in accordance with environmental requirements - Effectiveness of herbicide use
	1.5 Fertilise cereal crops according to environmental requirements.	<ul style="list-style-type: none"> Topic. Types and properties of fertilisers - Mineral fertilisers - Organic fertilisers - Properties of mineral and organic fertilisers Topic. Fertiliser system for cereals - Calculation of fertiliser rates - Basic fertilisation - Spring fertilisation - Foliar fertilisation - Environmental requirements for fertilisation - Fertilisation plan for selected plants Topic. Fertiliser machines, their selection, preparation for use and fertiliser application - Fertilisation methods, fertilisation requirements and selection of fertiliser machines - Characteristics and preparation of fertiliser machines - Specific features of fertiliser application and setting of fertiliser machines in different field configurations and meteorological conditions - Precision fertilisation
2. Sowing, planting and maintaining fodder, industrial and oilseed crops.	2.1 Describe the types of forage, industrial and oilseed crops.	<ul style="list-style-type: none"> Topic. Classification of plants according to their bio-economic properties - Forage plants (forage annual and perennial grasses, roots, tubers, silage), their importance, biological properties - Technical and oilseed crops (rapeseed, flax, sunflower, hemp), their importance, biological properties - Stages of plant growth and development Topic. Plant breeding technologies - Production of fodder crops



		- Production of industrial and oilseed crops
	2.2 Sowing and planting fodder, industrial and oilseed crops.	<p>Topic. Sowing/planting of fodder, industrial and oilseed crops</p> <ul style="list-style-type: none"> - Seed preparation for sowing, sowing techniques - Sowing of root crops - Planting of tuberous plants - Sowing of silage crops - Sowing of technical crops and oilseeds - Sowing of fodder crops (herbaceous) <p>Topic. Sowing and planting machines for fodder, technical and oilseed crops</p> <ul style="list-style-type: none"> - Sowing machines for fodder, technical and oilseed crops, their design features and selection and preparation for use - Potato planting machines, their constructional features and selection and preparation for use <p>Subject. Sowing and planting of fodder, industrial and oilseed crops</p> <ul style="list-style-type: none"> - Sowing of fodder, industrial and oilseed crops - Planting potatoes
	2.3 Maintain fodder, industrial and oilseed crops.	<p>Topic. Maintenance of fodder, industrial and oilseed crops</p> <ul style="list-style-type: none"> - Crop assessment - Agrotechnical measures for crop maintenance - Herbicide weed control - Prevention of diseases and pests and crop protection - Means, timing and methods of supplementary fertilisation <p>Topic. Irrigation facilities</p> <ul style="list-style-type: none"> - Irrigation systems - Maintenance of irrigation installations
	2.4 Apply protective measures to the production of fodder, industrial and oilseed crops.	<p>Topic. Plant protection products</p> <ul style="list-style-type: none"> - Methods of plant protection - Registered plant protection products - Safe working and environmental protection when using pesticides <p>Topic. Plant diseases, pests and control measures</p> <ul style="list-style-type: none"> - Diseases, pests and their control in fodder plants - Diseases, pests and their control in industrial and oilseed crops - Spraying of plants against diseases and pests in compliance with environmental



		<p>requirements</p> <p>Topic. Weeds and their control</p> <ul style="list-style-type: none"> - Types of weeds - Application of weed control measures - Crop care in accordance with environmental requirements - Effectiveness of herbicide use
	<p>2.5. Fertilise fodder, industrial and oilseed crops in an environmentally sound manner.</p>	<p>Topic. Fertilisation of fodder, industrial and oilseed crops</p> <ul style="list-style-type: none"> - Calculation of fertiliser rates - Basic fertilisation - Additional fertilisation - Environmental requirements for fertilisation <p>Topic. Fertiliser machines</p> <ul style="list-style-type: none"> - Getting plant fertiliser machines ready for use - Determining the amount of fertiliser to be applied - Quality of fertiliser operations, environmental compliance
<p>3. Sowing, planting and caring for medicinal and herbal plants.</p>	<p>3.1 Describe the types of medicinal and herbaceous plants, their sowing and planting operations.</p>	<p>Topic. Species, growth and development of medicinal and herbaceous plants</p> <ul style="list-style-type: none"> - Significance and classification of plants - Nutritional value and medicinal properties of plants <p>Topic. Sowing and planting of medicinal and herbaceous plants</p> <ul style="list-style-type: none"> - Sowing medicinal and herbaceous plants - Growing medicinal and herbaceous plants - Planting of medicinal and herbaceous plants
	<p>3.2 Carry out maintenance work on medicinal and herbaceous crops.</p>	<p>Topic. Specifics of medicinal and herbaceous crop care</p> <ul style="list-style-type: none"> - Crop assessment - Agrotechnical measures for crop care - Prevention of diseases and pests and crop protection - Means, timing and methods of supplementary fertilisation <p>Topic. Irrigation facilities</p> <ul style="list-style-type: none"> - Irrigation systems - Maintenance of irrigation installations
	<p>3.3 Apply protective measures to the cultivation and storage of medicinal plants and herbs.</p>	<p>Topic. Diseases, pests and their control in medicinal and herbaceous plants</p> <ul style="list-style-type: none"> - Major plant diseases and pests - Control of diseases and pests - Plant protection in the crop, storage areas <p>Topic. Weed control in medicinal and herbaceous crops</p>



		<ul style="list-style-type: none"> - Weed species, weed damage in the crop - Application of weed control measures
	3.4 Fertilise medicinal and herbal plants in an environmentally friendly way.	<p>Topic. Fertilisation of medicinal and herbaceous plants in an environmentally friendly way</p> <ul style="list-style-type: none"> - Fertilisation plan - Calculation of fertiliser rates - Basic fertilisation - Additional fertilisation <p>Topic. Environmental requirements for the cultivation of medicinal and herbaceous plants</p> <ul style="list-style-type: none"> - Fertiliser quality requirements - Use of plant protection products - Crop care in accordance with environmental requirements
4. Harvesting and managing cereals and other agricultural crops.	4.1 Select the timing, means and method of harvesting.	<p>Topic. Harvesting agricultural crops</p> <ul style="list-style-type: none"> - Timing, methods of harvesting cereals - Harvesting times and methods for forage crops - Harvesting times, methods for industrial crops and oilseeds - Harvesting/harvesting times, means for medicinal and herbaceous plants <p>Topic. Harvesting machines for cereals and other agricultural crops</p> <ul style="list-style-type: none"> - Harvesting machines for cereals - Harvesting machines for fodder crops - Harvesting machines for industrial crops and oilseeds - Harvesters for medicinal and herbaceous plants
	4.2 Apply the requirements for storage and preparation for marketing of crop produce.	<p>Topic. Storage requirements for agricultural crops</p> <ul style="list-style-type: none"> - Storage standards for agricultural crops - Storage conditions and maintenance characteristics of agricultural crops <p>Topic. Requirements for the preparation of agricultural crops for marketing</p> <ul style="list-style-type: none"> - Requirements for the purchase and supply of agricultural crops - Methods of preparing agricultural crops for marketing
	4.3 Prepare the crop for storage and marketing according to quality requirements.	<p>Topic. Preparation of cereal harvests for storage</p> <ul style="list-style-type: none"> - Storage conditions and maintenance of cereals - Pre-cleaning of cereal harvests - Control of grain moisture, drying - Grain preservation

		<p>Topic. Preparation of cereal crops for marketing</p> <ul style="list-style-type: none"> - Grain quality control - Secondary cleaning of cereal harvests (production) - Sorting of cereal harvests/produce - Completion of production accounting and disposal documents <p>Topic. Preparation of fodder, industrial and oilseed crops for storage</p> <ul style="list-style-type: none"> - Pre-treatment of fodder crops, preparation for storage - Cleaning of technical and oilseed crops - Drying of oilseeds <p>Topic. Preparation of technical and oilseed crops for marketing</p> <ul style="list-style-type: none"> - Quality control of technical and oilseed crops - Market preparation and packaging of technical and oilseed crops - Completion of production records and marketing documents <p>Subject. Sorting and drying of medicinal and herbaceous plants</p> <ul style="list-style-type: none"> - Grading of medicinal and herbaceous plants - Drying of medicinal and herbaceous plants <p>Topic. Packaging, storage and marketing of medicinal and herbal plants</p> <ul style="list-style-type: none"> - Packaging of medicinal and herbal raw materials - Labelling of medicinal and herbal raw material ready for sale
<p>Criteria for assessing learning outcomes</p>	<p>Describes the types of cereal, fodder, technical and oil, medicinal and spice plants, their care and watering. Sowing and planting of cereals, fodder plants, technical and oilseed plants, medicinal plants and herbs, fertilisation and plant maintenance work. Application of protection measures against diseases, pests and weeds for cereals, fodder, technical and oilseed crops, medicinal plants and herbs. Explain the requirements for storage and preparation for marketing of cereal, fodder, technical and oilseed, medicinal and herbaceous crops. The timing, means and methods of harvesting cereals, technical and oilseed crops, medicinal plants and herbs. The harvest of cereals, technical and oilseeds, medicinal plants and herbs is ready for storage and disposal.</p> <p>Wearing appropriate work clothing and footwear and personal protective equipment. Cleaning up the work area, equipment and tools when work is finished. The work was carried out in a good manner, in accordance with the work technology and health and safety and environmental requirements;</p>	



	<p>materials and equipment were selected, prepared for the work and used in a targeted manner.</p> <p>Precise technical and technological terms used in the national language.</p>
<p>Requirements for methodological and material resources for teaching</p>	<p>Teaching (training) materials:</p> <ul style="list-style-type: none"> - Textbooks and other teaching materials - Test to assess competences - Legislation governing occupational safety and health requirements - Rules of good plant protection practice - Operating instructions for agricultural machinery - Grain storage standards - Grain quality standards - Standards for grain purchase and supply requirements - Law on Plant Protection of the Republic of Lithuania - Law on Fertiliser Products of the Republic of Lithuania <p>Training(si) tools:</p> <ul style="list-style-type: none"> - Technical tools for illustrating, visualising, presenting the training material - Visual aids, examples of seeds, agricultural crops and fertilisers - Machines for tillage, sowing, crop maintenance, harvesting - Storage of agricultural products <p>- Workwear, footwear, personal protective equipment</p>
<p>Requirements for the theoretical and practical training site</p>	<p>A classroom or other room equipped with technical means (computer, internet access, multimedia projector) for presenting teaching/learning materials.</p> <p>A classroom/room for practical training, equipped with machinery for sowing, planting and tending agricultural crops; tools and equipment for maintenance (fertilisation, protection against diseases, pests and weeds, watering), harvesting and storage.</p> <p>Crop fields, medicinal and herbal areas, grain storage, juicy produce storage.</p>
<p>Teachers' subject-specific training requirements (subject</p>	<p>The module can be taught by a teacher who has:</p> <ol style="list-style-type: none"> 1) the education and qualification set out in the Law on Education of the Republic of Lithuania and in the Description of Requirements for the Qualification of Teachers, approved by the Order of the Minister of Education and Science of the Republic of Lithuania No V-774 of 29 August 2014 on the approval of the Description of Requirements for the Qualification of Teachers; 2. a degree in agronomy or equivalent, or a secondary education qualification and a qualification as an agricultural production business worker or equivalent,



qualifications)	at least 3 years of professional experience in agricultural work and a certificate of completion of a course in pedagogical and psychological knowledge.
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Module title - "Raising and caring for farm animals"

Module LTKS Level IV		
Learning credits 10 credits (Theory: 44 hours (20 per cent theory); Practice: 176 hours (80 per cent practice))		
Competences	Learning outcomes	Recommended content for achieving the learning outcomes
1. Prepare and store feed for farm animals.	1.1 Compare the composition, properties and nutritional value of feed.	<p>Topic. Feed composition and properties</p> <ul style="list-style-type: none"> - Composition of feed and the animal body - Organic metabolism - Properties of feed <p>Topic. Nutritional content of feed</p> <ul style="list-style-type: none"> - Plant nutrients - Nutrient content of plant - stored feed - Concentrated feed mixtures
	1.2 Explain the criteria for nutritional rationing of farm animals and the requirements for formulating diets	<p>Topic. Nutritional standards for farm animals</p> <ul style="list-style-type: none"> - Nutritional standards for cattle - Nutritional rules for pigs - Feedingstuffs for poultry <p>Topic. Rations for large farm animals</p> <ul style="list-style-type: none"> - Rations for cattle - Rations for pigs <p>Topic. Rationals for poultry</p> <ul style="list-style-type: none"> - Raciones for land birds

		- Rails for waterfowl
	1.3 Classify feedstuffs into groups according to their characteristics.	<p>Topic. Plant feeds</p> <ul style="list-style-type: none"> - Coarse fodder - Succulent feeds <p>Topic. Other feeds</p> <ul style="list-style-type: none"> - Industrial products and compound feed - Animal feed - Supplements
	1.4 Assess feed hygiene requirements and quality sensorially.	<p>Topic. Hygiene requirements for feed</p> <ul style="list-style-type: none"> - Primary production of feed - Grazing requirements for farm animals - Hygiene requirements for water <p>Topic. Feed quality</p> <ul style="list-style-type: none"> - Feed sample for testing - Quality of roughage - Quality of concentrated feed
	1.5 Calculate the annual feed/feed requirements for farm animals.	<p>Topic. Feed for large farm animals</p> <ul style="list-style-type: none"> - Feed for cattle and its requirements - Feed for pigs and their requirements <p>Topic. Feed for birds</p> <ul style="list-style-type: none"> - Feed for land birds and its requirements - Feed for waterfowl and its requirements
	1.6 Keep records of feed.	<p>Topic. Feed storage volume</p> <ul style="list-style-type: none"> - Assessment of feed storage requirements - Measurement of feed store volumes <p>Topic. Accounting for stored feed</p>



		<ul style="list-style-type: none"> - Accounting for roughage - Accounting for roughage - succulent feed
2. Raising beef cattle.	2.1 Describe beef cattle breeds and the principles of herd formation.	<p>Topic. Biological and economic characteristics of cattle</p> <ul style="list-style-type: none"> - Exterior of beef cattle - Reproductive organ systems and breeding physiology - Causes of infertility <p>Topic. Breeds of dairy cattle</p> <ul style="list-style-type: none"> - Intensive breeds - Semi-intensive breeds - Extensive breeds <p>Topic. Breeding of dairy cattle</p> <ul style="list-style-type: none"> - Pure breeding and crossbreeding - Selection of dairy cattle breeds for herd formation - Breeding records
	2.2 Explain the performance criteria for beef cattle.	<p>Topic. Productivity of dairy cattle</p> <ul style="list-style-type: none"> - Gain and feed costs - Marketing requirements <p>Topic. Cattle carcasses</p> <ul style="list-style-type: none"> - Grading of bovine carcasses - Determination of carcass price
	2.3 Explain the welfare requirements for beef cattle.	<p>Topic. Nutrition of dairy cattle</p> <ul style="list-style-type: none"> - Physiology of the digestive system and digestive physiology and topography of internal organs - Nutritional characteristics of adult beef



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		<p>cattle</p> <ul style="list-style-type: none">- Nutrition of adult bovine animals <p>Topic. Mechanisation of bovine nutrition</p> <ul style="list-style-type: none">- Water supply equipment and equipment- Feed preparation and feeding machines- Electric shepherd <p>Topic. Housing of beef cattle</p> <ul style="list-style-type: none">- Technological groups for beef cattle- Housing systems, barn designs- Hygiene and welfare requirements for beef cattle
	<p>2.4. Carry out the marking and registration of cattle.</p>	<p>Topic. Cattle marking</p> <ul style="list-style-type: none">- Ear tags, naming- Branding <p>Topic. Cattle registry</p> <ul style="list-style-type: none">- Notification of movement and replacement of livestock. Form GŽ-2- Notification of translocation and replacement of livestock. Form GŽ-2a- Notification of herd of livestock. Form GŽ-1- Livestock register. GAŽ-1 form
	<p>2.5. Establishing a beef cattle herd.</p>	<p>Topic. Selection and selection of cattle</p> <ul style="list-style-type: none">- Selection of breeding heifers- Bull selection <p>Topic. Organisation of breeding in beef cattle</p> <ul style="list-style-type: none">- Planning of insemination (mating)



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		<ul style="list-style-type: none">- Preparation of the insemination site- Monitoring calving
	2.6 Feed beef cattle according to established rations.	<p>Topic. Nutrition of adult beef cattle</p> <ul style="list-style-type: none">- Rations for suckler cows and the organisation of their diets- Grazing and supplementary feeding of beef cattle- Watering cattle <p>Topic. Nutrition of suckler cattle</p> <ul style="list-style-type: none">- Rations for breeding heifers and their nutritional management- Rations for fattening beef cattle and their nutritional management
	2.7 Establish criteria for welfare requirements for beef cattle.	<p>Topic. Beef cattle sheds</p> <ul style="list-style-type: none">- Storage and ventilation systems- Fencing- Day-houses <p>Topic. Microclimate of barn rooms</p> <ul style="list-style-type: none">- Air temperature- Relative humidity- Lighting- Air movement <p>Topic. Housing areas for beef cattle</p> <ul style="list-style-type: none">- Compliance with the criteria for the housing of suckler cattle- Compliance with the criteria for the keeping of adult beef cattle
	2.8. Prepare beef cattle for marketing.	<p>Topic. Marketing of beef cattle</p> <ul style="list-style-type: none">- Inspection and weighing of cattle



		<ul style="list-style-type: none"> - Determination of bovine intake <p>Topic. Transport of cattle</p> <ul style="list-style-type: none"> - Means of transport of cattle - Safe loading, transport and unloading of cattle - Transport documents
3. Raising dairy cattle.	3.1 Describe dairy cattle breeds and exterior characteristics and condition.	<p>Topic. Exterior of dairy cattle</p> <ul style="list-style-type: none"> - Movement organs and general cover - Requirements for the determination of exterior and condition <p>Topic. Breeds of dairy cattle</p> <ul style="list-style-type: none"> - Population of black-and-white cattle breeds - Population of green and greenish cattle breeds - Dairy cattle breeds of other populations - Population of indigenous improved cattle breeds
	3.2 Explain the principles of dairy cattle breeding.	<p>Topic. Dairy cattle breeding system</p> <ul style="list-style-type: none"> - Breeding enterprises and breeding organisations - Breeding information system <p>Topic. Breeding of dairy cattle</p> <ul style="list-style-type: none"> - Breeding systems and methods - Calving and midwifery care <p>Topic. Obstetric diseases in cattle</p> <ul style="list-style-type: none"> - Postnatal diseases - Mastitis
	3.3 Explain the welfare	<p>Topic. Nutrition of adult suckler cattle</p>



	<p>requirements for dairy cattle.</p>	<ul style="list-style-type: none"> - Nutrition of pregnant cows and heifers in calf - Nutrition of lactating cows - Grazing and supplementary feeding of dairy cattle - Water supply systems and watering <p>Topic. Nutrition of dairy cattle offspring</p> <ul style="list-style-type: none"> - Nutrition of calves up to 1 month of age - Nutrition of calves from 1 month to 6 months of age - Nutrition of breeding heifers from 6 months of age <p>Topic. Non-infectious diseases of cattle due to inadequate nutrition</p> <ul style="list-style-type: none"> - Diseases of adult bovine animals - Diseases of growing bovine animals <p>Topic. Management of dairy cattle</p> <ul style="list-style-type: none"> - Technological groups of dairy cattle - Housing systems, barn designs - Hygiene and welfare requirements for dairy cattle
	<p>3.4 Determine the exterior linear traits and condition of dairy cattle.</p>	<p>Topic. Linear exterior traits of dairy cattle</p> <ul style="list-style-type: none"> - General conformation - Limbs - Udder <p>Topic. Conditioning of dairy cattle</p> <ul style="list-style-type: none"> - Visual identification - Identification by touching
	<p>3.5. Conduct a study on the performance of lactating</p>	<p>Topic. Productivity of lactating cows</p>



	cows.	<ul style="list-style-type: none"> - Research methods - Accounting <p>Topic. Productivity of lactating cows</p> <ul style="list-style-type: none"> - Productivity per lactation - Annual productivity
	3.6. Establish a dairy herd.	<p>Topic. Selection and selection of dairy cattle</p> <ul style="list-style-type: none"> - Selection of breeding dairy heifers - Selection of bulls <p>Topic. Reproduction of dairy cattle</p> <ul style="list-style-type: none"> - Accounting, planning and identification of reproductive events - Care of the calving cow (heifer) and offspring <p>Topic. Veterinary procedures for calves</p> <ul style="list-style-type: none"> - Measures to prevent injuries - Off-worming
	3.7 Formulate diets for dairy cattle.	<p>Topic. Rations for adult suckler cattle</p> <ul style="list-style-type: none"> - Rations for calving cows and calving heifers during the barn period - Rations for lactating cows during the barn period <p>Subject. Rations for dairy cattle offspring</p> <ul style="list-style-type: none"> - Nutrition plan for calves up to 6 months of age - Rations for breeding heifers from 6 months of age during the barn period
	3.8 Feed dairy cattle according to established rations.	<p>Topic. Nutrition of adult suckler cattle</p> <ul style="list-style-type: none"> - Nutrition of pregnant cows and heifers in calf

		<ul style="list-style-type: none"> - Nutrition of lactating cows <p>Topic. Nutrition of offspring of dairy cattle</p> <ul style="list-style-type: none"> - Nutrition of calves up to 1 month of age - Nutrition of calves from 1 month to 6 months of age - Nutrition of breeding heifers from 6 months of age
	<p>3.9 Establish criteria for the welfare requirements of dairy cattle.</p>	<p>Topic. Dairy cattle barns</p> <ul style="list-style-type: none"> - Storage and ventilation systems - Fencing, pens, bedding <p>Topic. Microclimate of barn spaces</p> <ul style="list-style-type: none"> - Air temperature - Relative humidity - Lighting - Air movement <p>Topic. Dairy cattle accommodation</p> <ul style="list-style-type: none"> - Compliance with calf housing criteria - Compliance with the criteria for the housing of dairy progeny - Compliance with the criteria for housing adult dairy cattle - Transport and fixing of dairy cattle
<p>4. Raising pigs.</p>	<p>4.1 Describe pig breeds and performance.</p>	<p>Topic. Pig breeds</p> <ul style="list-style-type: none"> - Breeds of pigs of the paternal breeding trend - Breeds of pigs of the maternal breeding trend <p>Topic. Pig performance</p> <ul style="list-style-type: none"> - Biological and economic characteristics

		<p>of pigs</p> <ul style="list-style-type: none"> - Productivity indicators: fruit set and fattening - Meat characteristics <p>Topic. Pig carcasses</p> <ul style="list-style-type: none"> - Pig carcass grades and conformation - Pig carcass pricing
	4.2 Explain the pig breeding process.	<p>Topic. Pig fruit</p> <ul style="list-style-type: none"> - Reproductive organ systems and breeding physiology - Causes of infertility - Post-natal diseases in sows and suckling piglets - Obstetric care at farrowing <p>Topic. Pig breeding</p> <ul style="list-style-type: none"> - Breeding systems - Mixing (crossbreeding), heterosis
	4.3 Explain the welfare requirements for pigs.	<p>Topic. Nutritional peculiarities of pigs</p> <ul style="list-style-type: none"> - Digestive organ system and digestive physiology - Growth and development of suckling piglets - Metabolic diseases in pigs <p>Topic. Pig nutrition technology</p> <ul style="list-style-type: none"> - Feed preparation and feeding machines - Standardised and non-standardised nutrition - Water supply systems and watering <p>Topic. Housing of pigs</p>



		<ul style="list-style-type: none">- Pig technology groups- Housing systems, barn designs- Welfare requirements for pig housing- Stresses in pigs
	4.4. Carry out the marking and registration of pigs.	<p>Topic. Pig marking</p> <ul style="list-style-type: none">- Ear tags- Marking <p>Topic. Pig register</p> <ul style="list-style-type: none">- Notification of movement and replacement of farm animals. Form GŽ-2- Notification of translocation and replacement of livestock. Form GŽ-2a- Notification of herd of livestock. Form GŽ-1- Livestock register. GAŽ-2 form
	4.5. Form the pig herd.	<p>Topic. Selection of breeding stock</p> <ul style="list-style-type: none">- Selection of breeding gilts- Establishing mixing schemes <p>Topic. Pig breeding (reproduction)</p> <ul style="list-style-type: none">- Planning and accounting for pig reproduction (insemination and farrowing)- Organisation of pig estrus and insemination- Care of farrowing sows and offspring <p>Topic. Veterinary procedures for piglets</p> <ul style="list-style-type: none">- Tools and equipment- Tusk rubbing- Castration



	4.6 Formulate diets for pigs.	<p>Topic. Rations for adult pigs</p> <ul style="list-style-type: none">- Rations for piglets- Rations for lactating sows- Rations for pigs- Rations for fattening pigs <p>Subject. Rationals for pigs for growing pigs</p> <ul style="list-style-type: none">- Plan for rearing suckling piglets- Rations for breeding pigs
	4.7 Feed pigs according to the rations provided.	<p>Topic. Nutrition of adult pigs</p> <ul style="list-style-type: none">- Diet of pigs for farrowing- Nutrition of lactating sows- Diet for piglets- Fattening pigs <p>Topic. Nutrition of pig offspring</p> <ul style="list-style-type: none">- Supplementary feeding and disease prevention for suckling piglets- Nutrition of weaned piglets- Nutrition for pigs of breeding age
	4.8 Establish criteria for pig welfare requirements.	<p>Topic. Pig barns</p> <ul style="list-style-type: none">- Housing and ventilation systems- Day-houses <p>Topic. Microclimate of barn rooms</p> <ul style="list-style-type: none">- Air temperature- Relative humidity- Lighting- Air movement



		<p>Topic. Housing areas for pigs</p> <ul style="list-style-type: none"> - Compliance with piglet housing criteria - Compliance with the criteria for the housing of piglets - Compliance with the criteria for housing adult pigs
	4.9 Prepare pigs for marketing.	<p>Topic. Disposal of pigs</p> <ul style="list-style-type: none"> - Preparing pigs for marketing - Inspection and weighing of pigs <p>Topic. Transport of pigs</p> <ul style="list-style-type: none"> - Means of transport of pigs - Safe loading, transport and unloading of pigs - Transport documents
5. Raising birds.	5.1 Describe poultry species, breeds and crosses and their performance.	<p>Topic. Bird species, breeds and crosses</p> <ul style="list-style-type: none"> - Land bird species, breeds and crosses - Waterbird species, breeds and crosses - Other bird species <p>Topic. Productivity of birds</p> <ul style="list-style-type: none"> - Avian productivity indicators - Marketing requirements for birds - Egg marketing requirements for hens
	5.2 Explain the characteristics of flock formation.	<p>Topic. Features of anatomical structure and physiology of birds</p> <ul style="list-style-type: none"> - Organs of locomotion and general cover - Reproductive organ systems and breeding physiology <p>Topic. Incubators</p>

		<ul style="list-style-type: none"> - Domestic - Industrial
	<p>5.3 Explain the specifics of bird feeding and welfare requirements.</p>	<p>Topic. Feedingstuffs, storage and quality</p> <ul style="list-style-type: none"> - Feed for land birds - Feed for waterfowl <p>Topic. Features of bird feeding</p> <ul style="list-style-type: none"> - Digestive organ systems and digestive physiology - Non-infectious diseases of birds due to inadequate feeding <p>Topic. Feeding and watering machines for birds</p> <ul style="list-style-type: none"> - Feed storage tanks and feeding equipment - Water supply system and equipment <p>Topic. Poultry housing</p> <ul style="list-style-type: none"> - Housing systems - Poultry house projects <p>Topic. Welfare of individual bird species</p> <ul style="list-style-type: none"> - Welfare requirements for the housing of land birds - Welfare requirements for waterfowl
	<p>5.4. Form a flock</p>	<p>Topic. Breeding flock formation</p> <ul style="list-style-type: none"> - Selection of terrestrial birds - Selection of waterbirds <p>Topic. Selection of hatching eggs</p> <ul style="list-style-type: none"> - Egg selection for hatching in different species - Testing the quality of eggs collected



		<p>Topic. Egg hatching technologies</p> <ul style="list-style-type: none">- Pre-hatching storage and disinfection of eggs- Hatching of eggs from different species- Quality testing of hatched eggs- Evaluation and grading of hatchlings, sexing
	<p>5.5 Develop diets for birds.</p>	<p>Topic. Rations for land birds</p> <ul style="list-style-type: none">- Rations for chickens- Rations for turkeys <p>Topic. Raciones for waterfowl</p> <ul style="list-style-type: none">- Rails for ducks- Rails for geese <p>Topic. Rails for other bird species</p> <ul style="list-style-type: none">- Rails for quail- Rails for pheasants- Rails for ostriches
	<p>5.6 Feed birds according to established diets.</p>	<p>Topic. Feeding and watering birds</p> <ul style="list-style-type: none">- Feed preparation and filling of feeders- Watering birds <p>Topic. Feeding land birds</p> <ul style="list-style-type: none">- Feeding hens- Feeding turkeys <p>Topic. Feeding waterfowl</p> <ul style="list-style-type: none">- Feeding ducks- Feeding geese <p>Topic. Feeding of other bird species</p>



		<ul style="list-style-type: none"> - Feeding quail - Pheasant feeding - Ostrich feeding
	5.7 Establish criteria for bird welfare requirements.	<p>Topic. Poultry houses</p> <ul style="list-style-type: none"> - Housing systems, poultry house projects - Ventilation <p>Topic. Poultry house microclimate</p> <ul style="list-style-type: none"> - Air temperature - Relative humidity - Lighting - Air movement <p>Topic. Housing areas for birds</p> <ul style="list-style-type: none"> - Compliance with criteria for keeping land birds - Compliance with waterbird housing criteria
	5.8 Prepare poultry and table eggs for marketing.	<p>Topic. Disposal of birds</p> <ul style="list-style-type: none"> - Means and equipment for transporting birds - Trapping and caging of birds - Transport documents <p>Topic. Disposal of table eggs</p> <ul style="list-style-type: none"> - Collection, grading and marking of table eggs - Quality testing of table eggs - Packing, storage and transport of table eggs
6. Care for sick farm animals.	6.1 Explain farm animal diseases and biosecurity	Topic. Diseases of farm animals

	<p>requirements.</p>	<ul style="list-style-type: none"> - Surgical diseases and their prevention - Non-communicable animal diseases and their prevention - Infectious animal diseases <p>Topic. Biosecurity in farm animals</p> <ul style="list-style-type: none"> - Biosecurity requirements in livestock housing - Biosecurity requirements in pig holdings - Biosecurity requirements for poultry holdings - Losses and prevention of communicable diseases. <p>Topic. Veterinary medicinal products</p> <ul style="list-style-type: none"> - Medication forms and storage requirements - Disposal of medicines, withdrawal period
	<p>6.2 Explain the veterinary sanitation requirements for farm premises.</p>	<p>Topic. Veterinary sanitation equipment and tools</p> <ul style="list-style-type: none"> - Mechanical cleaning equipment - High pressure washing equipment - Aerosol generators - Fire appliances - Biocidal products <p>Topic. Cleaning of farm premises</p> <ul style="list-style-type: none"> - Mechanical cleaning - Washing with high pressure equipment <p>Topic. Disinfection</p> <ul style="list-style-type: none"> - Preventive disinfection



		<ul style="list-style-type: none"> - Routine disinfection - Final disinfection <p>Topic. Insect and rodent control</p> <ul style="list-style-type: none"> - Disinfestation - Deratisation
	6.3 Identify diseased farm animals.	<p>Topic. Visual monitoring</p> <ul style="list-style-type: none"> - Movement, behaviour and body condition - Appetite, chewing and rumination <p>Topic. Determination of physiological parameters</p> <ul style="list-style-type: none"> - Measurement of body temperature - Determination of respiratory rate - Determination of peristaltic movements of the large rumen of cattle
	6.4 Provide first veterinary aid to sick farm animals.	<p>Topic. Veterinary first aid for traumatised animals</p> <ul style="list-style-type: none"> - Disinfection of wounds - Wound dressing <p>Topic. Veterinary first aid for sick farm animals</p> <ul style="list-style-type: none"> - Preparation of the bed and isolation of the farm animal - Recording behavioural and physiological parameters of the farm animal, informing the veterinarian
	6.5 Administer veterinary medicines to farm animals.	<p>Topic. Herbal preparations</p> <ul style="list-style-type: none"> - Aquatic preparations - Solid preparations <p>Topic. Administration of veterinary</p>



		<p>medicinal products to farm animals</p> <ul style="list-style-type: none"> - Administration of veterinary medicinal products to bovine animals - Administration of veterinary medicinal products to pigs
	<p>6.6 Care for a sick farm animal in accordance with the veterinarian's instructions.</p>	<p>Topic. Care of a sick farm animal</p> <ul style="list-style-type: none"> - Keeping the bedding area tidy - Recording physiological parameters - Administration of veterinary medication <p>Topic. Nutrition of the sick farm animal</p> <ul style="list-style-type: none"> - Dietary feed - Establishing a ration based on the disease of the farm animal and the veterinarian's instructions
<p>Criteria for assessing learning outcomes</p>	<p>Comparison of the nutritional value of feed. Explains farm animals: performance criteria, welfare requirements, breeding principles, processes, flock formation and feeding peculiarities, farm animal diseases and biosecurity requirements, veterinary sanitation requirements for farm premises.</p> <p>Breeds and herd formation principles of beef cattle, breeds and exterior characteristics and condition of dairy cattle, breeds and performance of pigs, species, breeds and crosses of poultry, and performance,</p> <p>Grouping of feedstuffs. Feed hygiene requirements and quality assessed.</p> <p>Calculate the annual feed/feed requirements for farm animals.</p> <p>Rations for farm animals were established. The following activities were carried out: feed accounting, marking and registering of farm animals, study on the productivity of lactating cows. Establishment of livestock herds (poultry flock). Farm animals fed (fed) according to the rations established. Determination of farm animal welfare criteria, exterior linear features and condition of dairy cattle, physiological parameters of farm animals and sick farm animals. Prepared farm animals for transport and disposal, poultry and hens' table eggs for disposal. Veterinary first aid and veterinary medicines administered to sick farm animals. Care of sick farm animals in accordance</p>	



	with the veterinarian's instructions.
Requirements for methodological and material resources for teaching	<p>Teaching/learning materials:</p> <ul style="list-style-type: none">- Zootechnician's handbook. PDF- Law on Animal Welfare and Protection- Law on feed- Law on Veterinary Medicine- Law on Breeding of Farm Animals- Ministry of Agriculture of the Republic of Lithuania - Description of the procedure for the registration of holding places for farmed animals and for the marking and accounting of farmed animals kept therein- Rules on the organisation of performance tests for dairy animals- Standard. Bovine animals for slaughter. LST 1374 : 2004- Standard. Pigs for slaughter LST 1373 : 2004- Standard. Poultry for cutting. LST 1376 : 2004- Feed hygiene, product preparation and biosecurity and other veterinary requirements- Welfare requirements for farm animals- Instructions for the operation of equipment and means- Textbooks and other learning material <p>Teaching aids:</p> <ul style="list-style-type: none">- Personal hygiene equipment: clothing, goggles, gloves and footwear- Farm animal clamping machines and tools- Equipment and means for transporting livestock- Feed samples and sampling and measuring equipment- Ear tags and marking pliers for cattle and pigs- Instruments for determining the microclimatic parameters of stables- Productivity testing instruments- Electric shepherd



	<ul style="list-style-type: none"> - Incubators, egg weighing, marking and packaging equipment - Veterinary sanitation equipment and instruments - Thermometers for measuring body temperature, phonendoscopes, instruments for administering veterinary medicines and veterinary procedures
Requirements for the theoretical and practical training site	<p>A classroom or other teaching/learning space with technical facilities (multimedia and computers and Microsoft Office software) for presenting teaching/learning materials.</p> <p>A classroom/room for practical training, equipped with equipment and facilities: scales, refrigerator, incubator, animal mules, laboratory tables and equipment and reagents.</p> <p>Livestock farms or holdings, feed stores, product preparation rooms.</p>
Teachers' subject-specific training requirements (subject qualifications)	<p>The module can be taught by a teacher who has:</p> <ol style="list-style-type: none"> 1) the education and qualification set out in the Law on Education of the Republic of Lithuania and in the Description of Requirements for the Qualification of Teachers, approved by the Order of the Minister of Education and Science of the Republic of Lithuania No V-774 of 29 August 2014 on the approval of the Description of Requirements for the Qualification of Teachers; 2. a degree or equivalent qualification in livestock studies or secondary education and a qualification as an agricultural production business worker or equivalent, at least 3 years of professional experience in agricultural work and a certificate of completion of a course in pedagogical and psychological knowledge.

Module title - "Organic farming"

Module LTKS level	IV	
5 credits: (Theory: 22 hours (20 per cent); Practice: 88 hours (80 per cent))		
Competences	Learning outcomes	Recommended content for achieving the learning outcomes
1.Organise crop production in	1.1 Understand the requirements of organic farming and certification.	Topic. Organic farming requirements - Requirements for organic crop

<p>accordance with the principles of organic farming.</p>		<p>production</p> <ul style="list-style-type: none"> - Requirements for organic horticulture and gardening - Requirements for the collection of organic wild vegetation - Labelling of organic agricultural products <p>Topic. Certification of organic production farms</p> <ul style="list-style-type: none"> - Certification of organic production for new entrants to organic farming - Certification of organic production for organic farmers <p>Topic. Conversion from conventional to organic farming</p> <ul style="list-style-type: none"> - Requirements for conversion from conventional to organic farming - Completion of the organic production farm logbook - Completion and submission of a report on the production received, purchased and marketed on the farm.
	<p>1.2 Select crop production technologies on organic farms.</p>	<p>Topic. Selecting the specialisation of organic farms according to soil characteristics</p> <ul style="list-style-type: none"> - Selecting the specialisation of organic farms according to the available soil, topography and climatic conditions - Selection of the specialisation of organic farms according to the intended activity <p>Topic. Selection of plant species and varieties suitable for organic farms</p> <ul style="list-style-type: none"> - Criteria for selecting plant species and



		<p>varieties suitable for organic farming</p> <ul style="list-style-type: none">- Varieties of outdoor, horticultural and garden plants suitable for organic farming <p>Topic. Technologies for the cultivation of field, garden and orchard crops on organic farms</p> <ul style="list-style-type: none">- Technologies for the cultivation of field crops on organic farms- Technologies for the cultivation of horticultural plants on organic farms- Technologies for the production of garden plants on organic farms
	<p>1.3 Establish crop rotations on organic farms to reduce crop weediness.</p>	<p>Topic. Design and implementation of crop rotations</p> <ul style="list-style-type: none">- The role of crop rotation in organic farming- Principles of crop rotation design- Crop rotations on organic farms <p>Topic. Crop weed control</p> <ul style="list-style-type: none">- Main weeds and their biology- Pathways of entry of weeds into the crop- Weed impact on crop growth- The importance of crop rotation for weed control on organic farms- Mechanical weed control- Influence of crop density, sowing time and plant vigour on weediness on organic farms- Influence of intercropping on field weediness



		<p>Topic. Intercropping</p> <ul style="list-style-type: none"> - Winter intercrops - Summer intercrops - Seed, stubble intercrops - Establishing a rotation with intercrops
	<p>1.4 Assess the specificities of the production and acquisition of organic propagation material and seed.</p>	<p>Topic. Obligatory quality requirements for organic seed</p> <ul style="list-style-type: none"> - General provisions. - Certification of organic seed and propagating material. - Requirements for organic breeding crops. - Quality requirements for organic seed and propagating material. - Organic seed database and market overview. <p>Topic. Selection of varieties for organic farming</p> <ul style="list-style-type: none"> - Lithuanian National List of Plant Varieties. - Key varietal traits for organic farming. - Adaptability of varieties to organic growing conditions and selection. <p>Topic. Requirements for organic seed production</p> <ul style="list-style-type: none"> - Technology of seed cereal production. - Agrotechniques for the cultivation of perennial seed crops. - Use of biologically active organic compounds (fertilisers) for organic seed production. - Requirements for the acquisition of



		<p>propagating material for organic production.</p> <ul style="list-style-type: none">- Requirements for the renewal of organic seed. <p>Translated with DeepL.com (free version)</p>
	<p>1.5 Harvest and store organic produce.</p>	<p>Topic. Timing of seed harvesting</p> <ul style="list-style-type: none">- Harvesting times, methods for alfalfa crops- Harvesting times and methods for bean cereals- Harvesting times, methods for fodder crops- Harvesting times, methods for industrial crops and oilseeds- Regulation of seed harvesting <p>Topic. Cleaning the seed harvest</p> <ul style="list-style-type: none">- Seed cleaning techniques and technological requirements- Principles of seed cleaning and grading- Special cleaning agents- Determination of the quality, throughput and efficiency of cleaning machines <p>Topic. Drying of the seed crop</p> <ul style="list-style-type: none">- Seed drying methods and technological requirements- Shaft dryers- Mobile recirculating dryers



		<ul style="list-style-type: none">- Preparation and maintenance of dryers <p>Topic. Storage of seed crops</p> <ul style="list-style-type: none">- Seed storage methods and technological requirements- Types of warehouses and their constructional features- Technological installations for storage <p>Translated with DeepL.com (free version)</p>
<p>2. Use plant protection products and fertilisers according to organic production requirements.</p>	<p>2.1 Describe the authorised uses of plant protection products and techniques on an organic farm.</p>	<p>Topic. Methods of controlling plant diseases and pests</p> <ul style="list-style-type: none">- Agrotechnical plant protection methods- Physical and mechanical methods of plant protection- Biological plant protection methods- Chemical plant protection- Quarantine method of plant protection- Integrated plant protection method <p>Topic. Use of plant protection products in organic farming</p> <ul style="list-style-type: none">- Use of natural plant protection products in organic farming- Plant protection products registered under the Regulation <p>Topic. Specificity of plant protection in organic farming</p> <ul style="list-style-type: none">- Disease and pest protection measures for fog crops- Disease and pest control measures for

		<p>bean crops</p> <ul style="list-style-type: none"> - Disease and pest control measures for fodder grasses - Disease and pest control measures for oilseed and technical crops - Disease and pest control measures for vegetables - Disease and pest control products for garden plants <p>Topic. Biological plant protection measures</p> <ul style="list-style-type: none"> - Natural enemies of pests and their use in plant protection - Use of biologically active substances for plant protection - Pesticidal properties of plants and their use in plant protection - Use and preparation of fermented preparations for plant protection - Use of inorganic substances and microbiological preparations for plant protection
	<p>2.2 Apply the principles of plant nutrition and protection on an organic farm.</p>	<p>Topic. Fertilisation and plant nutrient balance in organic farming</p> <ul style="list-style-type: none"> - Macronutrient and micronutrient supply of agricultural plants - Fertilisers and soil improvers allowed on organic farms - Nutrient balance of agricultural plants in organic farming <p>Topic. Organic fertilisers</p> <ul style="list-style-type: none"> - Manure accumulation and storage



		<ul style="list-style-type: none"> - Slurry accumulation and storage - Green manure applications - Compost and how to make it - Timing and permissible amounts of manure and other organic fertilisers <p>Topic. Methods of preparing natural plant protection products</p> <ul style="list-style-type: none"> - Production and use of fermented preparations for plant fertilisation - Production and use of extract preparations for plant fertilisation - Production and use of decoction preparations for plant fertilisation - Solutions for the treatment of plant seeds
	<p>2.3 Carry out fertilisation and plant protection work on the farm.</p>	<p>Topic. Fertiliser technology and tools</p> <ul style="list-style-type: none"> - Fertilisation methods and technologies, types of machinery - Agrotechnical requirements for fertiliser machines <p>Topic. Mineral fertiliser spreaders</p> <ul style="list-style-type: none"> - Classification, design and principle of operation of mineral fertiliser spreaders - Preparation of mineral fertiliser spreaders for operation - Precision mineral fertiliser spreaders, their design and operating characteristics <p>Topic. Organic fertiliser spreading and placement machines</p> <ul style="list-style-type: none"> - Types, construction and operating principles of solid organic fertiliser

		<p>spreading machines</p> <ul style="list-style-type: none"> - Preparation for use and operational features of solid organic fertiliser spreading machines - Liquid organic fertiliser spreading and placement machines, their construction, use and preparation for use <p>Topic. Plant protection technologies and tools used</p> <ul style="list-style-type: none"> - Methods and technologies of plant protection, types of machinery - Agrotechnical requirements for plant protection machinery
	<p>2.4 Maintain crops on an organic farm.</p>	<p>Topic. Crop care technologies and inputs</p> <ul style="list-style-type: none"> - Crop care methods, technologies and tools. - Agrotechnical requirements for crop maintenance machinery. <p>Topic. Crop maintenance machinery</p> <ul style="list-style-type: none"> - Crop protection harrows, their types and uses. - Inter-row cultivators, design and use of cultivators. - Determination of the technological parameters of inter-row cultivators
<p>3.Organise livestock production in accordance with the principles of organic farming.</p>	<p>3.1 Explain the requirements of organic farming for livestock farms.</p>	<p>Topic. Organic livestock farm project</p> <ul style="list-style-type: none"> - Climate change and risk factors for organic livestock farming, environmental monitoring - Nutrient metabolism in organic livestock farming <p>Topic. Organic animal production</p>



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		<ul style="list-style-type: none">- Certification and control of organic production and animal products- Veterinary requirements for animal food products produced and supplied in small quantities to the local market- Specifications for products produced under the National Quality System for Agriculture and Food (NQS)
	<p>3.2 Explain the requirements for the production of organic and national quality animal products.</p>	<p>Topic. General veterinary requirements for organic production</p> <ul style="list-style-type: none">- Risk factor analysis and critical control point system- Traceability of technological processes for the production of animal food products <p>Topic. Veterinary requirements for animal food produced and supplied in small quantities for the local market</p> <ul style="list-style-type: none">- Personal hygiene- Animal food processing premises- Equipment and facilities for the production of animal food- Handling of dairy products- Handling of meat products and semi-finished products- Salting and smoking of animal food products <p>Subject. Specifications for products produced under the National Quality System for Agriculture and Food (NQS)</p> <ul style="list-style-type: none">- NQF, milk and milk products- NQF, meat and meat products- NQF, poultrymeat



		<ul style="list-style-type: none"> - NQF, eggs - NQF, product accounting <p>Topic. Composition of animal products</p> <ul style="list-style-type: none"> - Composition and properties of milk - Composition of meat and poultrymeat
	<p>3.3 Explain the requirements for the management of organic fertilisers.</p>	<p>Topic. Manure removal systems and machines</p> <ul style="list-style-type: none"> - Manure removal plants - Liquid manure separators <p>Topic. Storage requirements for organic fertilisers</p> <ul style="list-style-type: none"> - Organic fertiliser storage and the use of probiotic preparations - Slurry ponds and slurry tanks - Liquid manure slurry traps
	<p>3.4 Select the specialisation of the organic farm and the most appropriate species and breeds of farm animals.</p>	<p>Topic. Cattle breeds</p> <ul style="list-style-type: none"> - Meat cattle breeds - Breeds of dairy cattle - Improved local breeds of cattle <p>Topic. Pig breeds</p> <ul style="list-style-type: none"> - Pig breeds, crossbreeding - Local pig breed <p>Topic. Bird species, breeds and crosses</p> <ul style="list-style-type: none"> - Breeds and crosses of land birds - Waterfowl breeds and crosses
	<p>3.5. Certification of organic livestock farms.</p>	<p>Topic. Certification of organic production and food products</p> <ul style="list-style-type: none"> - Certification documents



		<ul style="list-style-type: none"> - Forage crops - Livestock register, notification of the herd of livestock. Form GŽ-1 - Further training of farmers <p>Subject. Control of the organic production process</p> <ul style="list-style-type: none"> - Transition period - Monitoring of the organic livestock holding - Assessment of compliance with the organic welfare of farm animals <p>Topic. Production of organic products</p> <ul style="list-style-type: none"> - Organic feed production - Production and labelling of organic animal products <p>Production and labelling of national quality products</p>
	<p>3.6. Produce small quantities of organic animal products of exceptional (national) quality.</p>	<p>Topic. Dairy products</p> <ul style="list-style-type: none"> - Raw and drinking milk - Dairy fat products - Fermented milk products - Curd and cheese products - Secondary milk products <p>Topic. Cutting up farm animal carcasses</p> <ul style="list-style-type: none"> - Carcasses of bovine animals - Pig carcasses - Poultry carcasses <p>Topic. Meat products</p> <ul style="list-style-type: none"> - Freezing, salting and smoking of meat



		<ul style="list-style-type: none"> - Canned products - Farms and sausages - Poultry products
	<p>3.7. Establishing sensory quality indicators for organic animal products.</p>	<p>Topic. Dairy product quality</p> <ul style="list-style-type: none"> - Quality of raw milk - Quality of drinking milk - Quality of sour cream and cream - Quality of butter - Quality of fermented milk products - Quality of cottage cheese and cheeses <p>Topic. Quality of meat products</p> <ul style="list-style-type: none"> - Quality of meat - Quality of cured and smoked meat products - Quality of poultry meat
	<p>3.8 Keep organic livestock farm records.</p>	<p>Topic. Accounting for animal products</p> <ul style="list-style-type: none"> - Accounting for dairy products - Accounting for meat products - Accounting for poultry products and eggs <p>Topic. Organic production logbook</p> <ul style="list-style-type: none"> - Accounting for non-organic farm animals purchased - Accounting of grazing/urination applications - Feeding/nutrition records - Livestock production accounting - Cleaning and disinfection



		<ul style="list-style-type: none"> - Accounting for the disposal of production <p>Accounting for raw materials used in the production of food/feed</p>
	<p>3.9. Determine the parameters of organic fertiliser tanks.</p>	<p>Topic. Slurry and manure tanks</p> <ul style="list-style-type: none"> - Conditional farm animals - Quantity of thick manure - Slurry, process water and waste water <p>Topic. Liquid manure tanks</p> <ul style="list-style-type: none"> - Conditional farm animals - Liquid manure, process water and waste water
<p>4. Ensure the welfare of farm animals by following the principles of organic farming.</p>	<p>4.1 Explain the ecological and national specific requirements for farm animal nutrition.</p>	<p>Topic. Feed</p> <ul style="list-style-type: none"> - Organic feed and supplements - Probiotics <p>Topic. Rations</p> <ul style="list-style-type: none"> - Rations for beef cattle - Rations for dairy cattle - Rations for pigs - Rationals for poultry
	<p>4.2 Explain the ecological and national specific requirements for keeping farm animals.</p>	<p>Topic. Keeping beef cattle</p> <ul style="list-style-type: none"> - Housing systems - Microclimate of the sheds - Housing of beef cattle of different technological groups <p>Topic. Housing of dairy cattle</p> <ul style="list-style-type: none"> - Housing systems - Microclimate of the sheds



		<ul style="list-style-type: none"> - Housing of dairy cattle of different technological groups <p>Topic. Housing of pigs</p> <ul style="list-style-type: none"> - Housing systems - Microclimate of the barn - Housing of pigs of different technological groups <p>Topic. Housing of land birds</p> <ul style="list-style-type: none"> - Housing systems for chickens and turkeys - Microclimate of the hen house - Microclimate in turkey houses - Technology for the housing of dry poultry progeny - Technology for keeping adult land birds <p>Topic. Housing of waterfowl</p> <ul style="list-style-type: none"> - Duck and goose housing systems - Microclimate of duck houses - Microclimate of the goose house - Waterfowl brood rearing technologies - Adult waterfowl housing technology
<p>Criteria for assessing learning outcomes</p>	<p>Specialisation in organic farming is envisaged. Describes the methods, importance and timing of tillage. The selection of appropriate technologies for the cultivation and care of field, garden and horticultural crops, resulting in a harvest of quality organic produce and quality organic seeds;</p> <p>Properly selected and safely used machinery and equipment for fertilisation, crop protection and crop care.</p> <p>Explained the requirements of organic livestock farming: nutrition of farm animals, housing requirements, production of organic animal products, management of organic fertilisers, use of veterinary medicines.</p>	

	<p>Calculation of nutrient metabolism according to the specialisation of the organic farm, selection of species and breeds of farm animals. Certification of the organic farm specialised in livestock production. Organic animal products produced and quality assessed. Rations and nutrition of farm animals have been established. Accounting of the organic livestock holding. Determination of the parameters of organic fertiliser storage tanks. Compliance of the housing conditions of the farm animals assessed. Description of medicinal plants and their preparations</p> <p>Wear appropriate work clothes and footwear and personal protective equipment. Cleaning and tidying up tools when work is finished. The work was carried out to a high standard, in accordance with the work technology and occupational health and safety requirements; materials and equipment were selected, prepared for the work and used appropriately.</p> <p>Precise use of technical and technological terms in the national language, communication in accordance with work ethics and culture.</p>
<p>Requirements for methodological and material resources for teaching</p>	<p>Teaching (training) materials:</p> <ul style="list-style-type: none"> - Textbooks and other teaching materials - Test to assess competences - Catalogues, posters and other visual material to illustrate the teaching material presented - Legislation on health and safety at work - Law on organic farming of the Republic of Lithuania - Mandatory quality requirements for agricultural seed - Instructions for the use of equipment and tools - Organic requirements for the keeping and feeding of farm animals and the production of products <p>Training(si) measures:</p> <ul style="list-style-type: none"> - Technical means for illustrating, visualising and presenting the teaching material - Natural visual aids (crops, soil, plant, weed herbaria, seed samples, posters and other tools) - Cereal seed quality analyser "INFRATEC" - Seed moisture meter



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	<ul style="list-style-type: none"> - Equipment and machinery for fertilisation, protection and maintenance of plants - Personal hygiene equipment: clothing, goggles, gloves and footwear - Farm animal fixing machines and tools - Equipment for the use of probiotic preparations - Equipment and tools for the preparation of dairy products - Equipment and tools for the preparation of meat products - Equipment and means for packaging dairy and meat products - Laboratory reagents, utensils and instruments - Equipment and instruments for the preparation of medicinal plant products
<p>Requirements for the theoretical and practical training site</p>	<p>A classroom or other room equipped with technical means (computer, video projector) for presenting teaching/learning material.</p> <p>A classroom/room for practical training, equipped with work clothes, personal protective equipment, tools for organic farming: equipment for determining seed quality, equipment and machinery for fertilisation, protection and maintenance of plants.</p> <p>Fields suitable for the development of organic farming.</p>
<p>Requirements for teachers' subject-specific training (subject-specific qualifications)</p>	<p>The module can be taught by a teacher who has:</p> <ol style="list-style-type: none"> 1) the education and qualification set out in the Law on Education of the Republic of Lithuania and in the Description of Requirements for the Qualification of Teachers, approved by the Order of the Minister of Education and Science of the Republic of Lithuania No V-774 of 29 August 2014 on the approval of the Description of Requirements for the Qualification of Teachers; 2. a degree in agronomy or equivalent, or a secondary education qualification and a qualification as an agricultural production business worker or equivalent, at least 3 years' professional experience in agricultural work, and a certificate of completion of a course in pedagogical and psychological knowledge.

6.3. OPTIONAL MODULES

Module title - "Growing and caring for ornamental plants"

Module LTKS level	III	
5 credits: (Theory: 22 hours (20 per cent); Practice: 88 hours (80 per cent))		
Competences	Learning outcomes	Recommended content for achieving the learning outcomes
1. Prepare the soil and substrate for growing ornamental plants.	1.1 Describe soil and substrate preparation techniques for growing ornamental plants outdoors and in greenhouses.	<p>Topic. Substrates and technologies for the preparation of soil mixtures</p> <ul style="list-style-type: none"> - Types of substrates - Substrate preparation technology for greenhouse production of ornamental plants - Mixtures of soils - Technology for the preparation of soil mixtures for outdoor production of ornamental plants <p>Topic. Composting of organic waste</p> <ul style="list-style-type: none"> - Materials suitable for composting - Methods of preparing compost
	1.2 Establish a crop rotation.	<p>Topic. Crop rotation and plant diversity</p> <ul style="list-style-type: none"> - Plant change and requirements - Establishing a crop rotation <p>Topic. Plant growth conditions and their regulation</p> <ul style="list-style-type: none"> - Plant growth conditions - Determination and assessment of plant

		growth conditions
	1.3 Prepare substrates for growing ornamental plants in the field and in greenhouses.	<p>Topic. Substrate preparation for outdoor production of ornamental plants</p> <ul style="list-style-type: none"> - Preparation of soils and soil mixtures for the outdoor production of ornamental plants - Preparation of a peat mixture to meet the needs of ornamental plants grown outdoors - Preparation of compost substrate for the outdoor cultivation of ornamental plants <p>Topic. Preparation of substrates for greenhouse production of ornamental plants</p> <ul style="list-style-type: none"> - Preparation of peat substrate for greenhouse production of ornamental plants - Preparation of soil mix substrate for ornamental plant production in greenhouses
	1.4. Atlikti dirvos paruošimo darbus dekoratyvinių augalų sodinimui.	<p>Topic. Soil preparation for ornamental plants</p> <ul style="list-style-type: none"> - Effects of tillage on soil - Selecting the method and timing of tillage <p>Topic. Greenhouse soil preparation for ornamental crops</p> <ul style="list-style-type: none"> - Working safely and protecting the environment when preparing the greenhouse for the production of ornamental plants - Disinfection of greenhouse soil - Preparation of soil for ornamental

		plants in greenhouses
2. Propagate and grow ornamental plants.	2.1 Describe the groups of ornamental plants, their propagation methods and cultivation techniques.	<p>Topic. Woody ornamental plants</p> <ul style="list-style-type: none"> - Botanical classification of woody ornamental plants - Morphological characteristics of woody ornamental plants - Popular species and varieties of woody ornamental plants in Lithuania and their growing conditions - Methods of propagation of woody ornamental plants - Technologies for the cultivation of woody ornamental plants <p>Topic. Herbaceous ornamental plants</p> <ul style="list-style-type: none"> - Classification of herbaceous ornamental plants - Morphological characteristics of herbaceous ornamental plants - Popular species and varieties of herbaceous ornamental plants in Lithuania and their growing conditions - Methods of propagation of herbaceous ornamental plants - Herbaceous ornamental plant cultivation technologies
	2.2 Propagate ornamental plants by seed and vegetative propagation.	<p>Topic. Propagation of ornamental plants by seed</p> <ul style="list-style-type: none"> - Seed preparation for sowing - Sowing time for ornamental outdoor plants - Sowing ornamental plants <p>Topic. Vegetative propagation of</p>

		<p>ornamental plants</p> <ul style="list-style-type: none"> - Methods of vegetative propagation of ornamental plants - Preparation of plant parts for propagation - Maintenance of rooted cuttings
	<p>2.3 Apply pest and disease control and weed control measures to ornamental plants.</p>	<p>Topic. Protection of ornamental plants against diseases and pests</p> <ul style="list-style-type: none"> - Ornamental plant diseases - Pests of ornamental plants - Use of measures to protect against diseases and pests of ornamental plants <p>Topic. Weed control</p> <ul style="list-style-type: none"> - Types of weeds - Weed control measures, their safe application
	<p>2.4 Maintain ornamental plants outdoors and in the greenhouse during the growing season.</p>	<p>Topic. Fertilising ornamental plants</p> <ul style="list-style-type: none"> - Mineral fertilisers, timing and features of fertilisation - Organic fertilisers, timing and specifics - Fertilising ornamental plants in the field and in the greenhouse <p>Topic. Watering ornamental plants</p> <ul style="list-style-type: none"> - Watering times and rates for ornamental plants - Watering ornamental plants in the field and in the greenhouse <p>Topic. Ornamental plant care during the growing season</p> <ul style="list-style-type: none"> - Mulching ornamental plants growing

		<p>outdoors</p> <ul style="list-style-type: none"> - Mulching ornamental plants grown in the greenhouse - Loosening the soil surface
3. Shape ornamental plants.	3.1 Describe the ways in which ornamental plants are shaped.	<p>Topic. Techniques for shaping ornamental plants</p> <ul style="list-style-type: none"> - Formation aims and objectives - Formative pruning - Maintained pruning - Renewable pruning <p>Topic. Ornamental plants suitable for pruning</p> <ul style="list-style-type: none"> - Knowing ornamental plants suitable for pruning - Pruning resistance of different ornamental plants
	3.2 Select tools and techniques for shaping ornamental plants.	<p>Topic. Tools for shaping ornamental plants</p> <ul style="list-style-type: none"> - Hand tools for shaping ornamental plants - Selection, safe use and maintenance of ornamental pruning tools <p>Topic. Ornamental plant after-care tools</p> <ul style="list-style-type: none"> - Tools for post-pruning plant care - Selection, use and maintenance of post-pruning tools for ornamental plants
	3.3 Perform formative, maintenance and renewal pruning of ornamental plants.	<p>Topic. Shaping ornamental plants</p> <ul style="list-style-type: none"> - Methods and timing of ornamental plant formation - Shaping ornamental conifers

		<ul style="list-style-type: none"> - Ornamental deciduous plant formation <p>Topic. Pruning ornamental plants</p> <ul style="list-style-type: none"> - Methods and timing of pruning ornamental plants - Maintenance pruning of ornamental plants - Renewable pruning of ornamental plants
4. Prepare ornamental plants for marketing.	4.1 Describe the requirements for harvesting, storage and transport of ornamental herbaceous and woody plants.	<p>Topic. Harvesting ornamental herbaceous and woody plants</p> <ul style="list-style-type: none"> - Quality requirements for cut ornamental plants - Requirements for digging up ornamental herbaceous and woody plants - Requirements for transferring ornamental herbaceous and woody plants into pots <p>Topic. Storage and transport of ornamental herbaceous and woody plants</p> <ul style="list-style-type: none"> - Storage methods for ornamental plants - Methods of transporting ornamental plants - Storage and warehousing of plants ready for sale
	4.2 Prepare ornamental herbaceous and woody plants for storage and transport in accordance with the requirements.	<p>Topic. Preparation of ornamental herbaceous and woody plants for storage</p> <ul style="list-style-type: none"> - Picking ornamental herbaceous and woody plants - Seasonal digging of seedlings - Transferring ornamental herbaceous

		<p>and woody plants into pots</p> <p>Topic. Preparing ornamental herbaceous and woody plants for transport</p> <ul style="list-style-type: none"> - Preparation of ornamental herbaceous and woody plants for transport - Preparation for transport of ornamental herbaceous and woody plants grown in greenhouses
	<p>4.3 Prepare ornamental planting material for marketing in accordance with quality requirements.</p>	<p>Topic. Conditions for the marketing of ornamental herbaceous and woody plants</p> <ul style="list-style-type: none"> - Quality requirements for ornamental herbaceous and woody planting material - Requirements for propagating material of ornamental herbaceous and woody plants <p>Subject. Preparation of ornamental plants for marketing</p> <ul style="list-style-type: none"> - Updating the range of ornamental herbaceous and woody plants - Main tasks for the preparation of ornamental plants for marketing - Time of marketing of ornamental planting material - Labelling of seedlings ready for marketing
<p>Criteria for assessing learning outcomes</p>	<p>Describes soil and substrate preparation techniques for growing ornamental plants outdoors and in greenhouses. A crop rotation according to requirements. Substrate preparation for outdoor and greenhouse production of ornamental plants. Preparation of soil for planting ornamental plants. Identification of ornamental plants, description of groups of ornamental plants, propagation methods and cultivation techniques. Ornamental plants propagated by seed and vegetative propagation. Apply safety measures to protect ornamental plants against pests, diseases and weeds. Proper maintenance of ornamental plants in the field and in the greenhouse during the growing season. Describe methods of shaping ornamental plants. Proper selection and preparation of tools and equipment for ornamental plant shaping. Perform formative, maintenance and</p>	

	<p>restorative pruning of ornamental plants. Describe the requirements for harvesting, storage and transport of ornamental herbaceous and woody plants. Ornamental plants have been prepared for storage, transport and disposal in accordance with safety requirements.</p> <p>Appropriate work clothing and footwear and personal protective equipment are worn. Cleaning and tidying up of the work area, cleaning of tools and storage of any remaining materials at the end of the work. The work was carried out to a high standard, in accordance with the work technology and occupational health and safety requirements; materials and equipment were selected, prepared for the work and used appropriately.</p>
<p>Requirements for methodological and material resources for teaching</p>	<p>Teaching (training) materials:</p> <ul style="list-style-type: none"> - Textbooks and other teaching materials - Test to assess competences - Legislation governing occupational safety and health requirements - Rules of good plant protection practice - Law on fertiliser products - Catalogues, posters and other visual material on plants, tools, implements - Quality requirements for cut flowers - Quality requirements for planting material - Mandatory requirements for propagating material of ornamental plants - Instructions for use of chemicals - Rules on labelling and price indications <p>Training tools:</p> <ul style="list-style-type: none"> - Technical tools for illustration, visualisation, presentation of teaching material - Visual aids, examples of seeds, ornamental plants, substrates, fertilisers - Tillage tools and implements for soil, substrate and compost preparation - Tools and equipment for pruning and propagation - Tools and instruments for packaging and labelling ornamental plants - Working clothes, footwear, personal protective equipment
<p>Requirements for the</p>	<p>A classroom or other room equipped with technical means (computer, internet access, multimedia projector) for presenting teaching/learning materials.</p>



<p>theoretical and practical training site</p>	<p>A classroom/room for practical training, equipped with tools for the preparation of soil and substrate, for the cultivation and maintenance of ornamental plants (pruning, fertilisation, watering), tools and equipment for packaging and labelling of ornamental plants.</p> <p>Garden or nursery, ornamental greenhouse, ornamental storage.</p>
<p>Requirements for teachers' subject-specific training (subject-specific qualifications)</p>	<p>The module can be taught by a teacher who has:</p> <p>1) the education and qualification set out in the Law on Education of the Republic of Lithuania and in the Description of Requirements for the Qualification of Teachers, approved by the Order of the Minister of Education and Science of the Republic of Lithuania No V-774 of 29 August 2014 on the approval of the Description of Requirements for the Qualification of Teachers;</p> <p>2. a degree in landscape architecture or equivalent, or secondary education and a qualification as an employee of an ornamental planting and landscaping business or equivalent, at least 3 years of professional experience in ornamental planting and a certificate of completion of a course in pedagogical and psychological knowledge.</p>

Module title - "Sheep production"

<p>Module LTKS level</p>	<p>IV</p>	
<p>5 credits: (Theory: 22 hours (20 per cent); Practice: 88 hours (80 per cent))</p>		
<p>Competences</p>	<p>Learning outcomes</p>	<p>Recommended content for achieving the learning outcomes</p>
<p>1. Establishing the sheep's diet and feed rationing.</p>	<p>1.1. Explain the specifics of feeding sheep during the barn and grazing periods.</p>	<p>Topic. Feed requirements for sheep feeding</p> <ul style="list-style-type: none"> - Nutrient requirements - Nutrient requirements of different groups of sheep - Topic. Feeding sheep in summer and winter - Feeding sheep during the barn period - Grazing sheep

	<p>1.2 Design diets for different groups of sheep.</p>	<p>Topic. Determining nutrient requirements</p> <ul style="list-style-type: none"> - Feeding rates for sheep - Feed accumulation for sheep - Establishing rations - Watering sheep <p>Topic. Feeding peculiarities of different groups of sheep</p> <ul style="list-style-type: none"> - Feeding breeding sheep - Feeding of ewe lambs - Feeding lactating sheep - Feeding of weaned and weaned lambs
	<p>1.3 Prepare feed suitable for feeding sheep.</p>	<p>Topic. Forages</p> <ul style="list-style-type: none"> - Coarse forage - Succulent feeds - Grass - Silage fodder - Root crops and tubers <p>Topic. Concentrated feedingstuffs</p> <ul style="list-style-type: none"> - Cereals - Secondary processing products of crop production - Mineral and vitamin additives
<p>2. Look after the sheep.</p>	<p>2.1 Describe sheep breeds and their characteristics.</p>	<p>Topic. Sheep breeding</p> <ul style="list-style-type: none"> - Origin, characteristics and behaviour of sheep - Identification and registration of sheep - Methods of sheep breeding

		<ul style="list-style-type: none"> - Principles of sheep evaluation <p>Topic. Sheep breeds</p> <ul style="list-style-type: none"> - Meat sheep breeds - Dairy sheep breeds - Wool sheep breeds for meat - Exotic ornamental sheep breeds
	<p>2.2. Apply basic indoor microclimate parameters and indoor disinfection requirements.</p>	<p>Topic. Farm buildings and their installation</p> <ul style="list-style-type: none"> - Requirements for the layout of premises and their structural solutions - Requirements for feeders and waterers - Indoor air parameters, heating and ventilation requirements - Lighting requirements for sheep houses <p>Topic. Hygiene in sheep housing</p> <ul style="list-style-type: none"> - Disinfection of sheep holding premises - Disinfection of equipment on sheep farms - Eradication of rodents on sheep farms
	<p>2.3. Look after the sheep.</p>	<p>Topic. Methods of keeping sheep</p> <ul style="list-style-type: none"> - Sheep housing system - Sheep housing system <p>Topic. Management of different groups of sheep</p> <ul style="list-style-type: none"> - Care of ewes in lambing and first lambing - Assistance during lambing - Care of lambs until weaning



		<ul style="list-style-type: none"> - Care of fattening sheep - Care of ram sires - Veterinary and sanitary requirements for sheep housing - Safety requirements for workers when caring for sheep
	2.4 Adapt manure disposal and storage technologies.	<p>Topic. Manure and slurry disposal</p> <ul style="list-style-type: none"> - Manure yield rates - Wastewater management requirements, - Requirements for the management of manure disposal and the installation of manure pits <p>Topic. Manure and slurry storage</p> <ul style="list-style-type: none"> - Slurry ponds - Slurry traps - Slurry piles
3. Shearing sheep, sorting wool.	3.1 Understand the properties of wool.	<p>Topic. Types of wool hair</p> <ul style="list-style-type: none"> - Features of down - Acots, their characteristics - Characteristics of transitional hair - Characteristics of dead hair <p>Topic. Types of wool</p> <ul style="list-style-type: none"> - Merino wool - Lambs' wool
	3.2 Perform sheep shearing.	<p>Topic. Sheep shearing technology</p> <ul style="list-style-type: none"> - Shearing time for sheep - Features of hand shearing

		<ul style="list-style-type: none"> - Features of electric shearing - Safety requirements for workers when shearing sheep <p>Topic. Sheep shearing equipment</p> <ul style="list-style-type: none"> - Shearing scissors - Shearing machines - Shearing room preparation
	3.3 Sort and process wool.	<p>Topic. Wool grading</p> <ul style="list-style-type: none"> - Fine wool - Semi-fine wool - Semi-coarse wool - Coarse wool <p>Topic. Wool processing</p> <ul style="list-style-type: none"> - Wool washing and drying - Heating of wool
4. Milking sheep, initial milk preparation	4.1 Describe sheep milking machines and equipment.	<p>Topic. Sheep milking techniques</p> <ul style="list-style-type: none"> - Manual milking - Mechanised milking <p>Topic. Sheep milking equipment</p> <ul style="list-style-type: none"> - Manual milking machines - Mechanised milking equipment - Milking platforms
	4.2 Milk sheep.	<p>Topic. Sanitary hygiene requirements for milking sheep</p> <ul style="list-style-type: none"> - Veterinary and hygiene requirements for the dairy farm - Hygiene requirements for the person working on sheep milking



		<p>Topic. Milking technology</p> <ul style="list-style-type: none"> - Preparation of milking equipment for operation - Milking technology - Safety requirements for workers working on sheep milking
	4.3. Processing sheep's milk	<p>Topic. Primary processing of milk</p> <p>Properties of milk</p> <ul style="list-style-type: none"> - Mashing, cooling and storage of milk <p>Topic. Milk production</p> <ul style="list-style-type: none"> - Production of sheep milk products - Storage of products
5. Slaughter sheep.	5.1 Have knowledge of sheep slaughtering technology.	<p>Topic. Sheep slaughtering requirements</p> <ul style="list-style-type: none"> - Methods and process of slaughter - Handling of specific materials (SMM) in the slaughterhouse <p>Topic. Means of slaughtering sheep</p> <ul style="list-style-type: none"> - Slaughtering equipment - Suitability of premises - Safety of workers in the slaughterhouse
	5.2. Carry out sheep slaughter.	<p>Topic. Sanitary and hygienic requirements for sheep slaughter</p> <ul style="list-style-type: none"> - Veterinary and hygiene requirements for the slaughterhouse - Hygiene requirements for the person working on sheep slaughter <p>Topic. Sheep slaughter</p> <ul style="list-style-type: none"> - Preparation of slaughtering equipment

		<p>for operation</p> <ul style="list-style-type: none"> - Slaughtering technology - Safety requirements for workers when slaughtering sheep
	<p>5.3 Sort sheep meat according to quality requirements.</p>	<p>Topic. Sheep meat</p> <ul style="list-style-type: none"> - Meat yield of sheep - Main meat quality indicators - Hygiene requirements for cutting <p>Topic. Sheep meat quality assessment</p> <ul style="list-style-type: none"> - Meat quality requirements - Qualification of sheep carcasses according to the EUROP standard
	<p>5.4 Apply fur and leather processing techniques.</p>	<p>Topic. Sheep wool production</p> <ul style="list-style-type: none"> - Wool processing technologies - Applications of wool in clothing - Use of wool for household items - Use of wool for heating <p>Topic. Sheepskin products</p> <ul style="list-style-type: none"> - Classification of skins according to leather - Sheepskins
<p>Criteria for assessing learning outcomes</p>	<p>Explain the peculiarities of feeding sheep. Establish rations for different groups of sheep, describe feeds, suitability for sheep feeding. Handle and care for sheep, describe sheep breeds and their characteristics. Analyse the requirements for the installation and maintenance of sheep farming premises. Understands manure storage and disposal requirements. Sheep combing and wool processing. Milking and milk processing. Knowledge of slaughtering techniques.</p> <p>Wear appropriate work clothing and footwear and personal protective equipment. Work is carried out to a high standard, in accordance with the work technology and occupational health and safety requirements;</p>	



	<p>materials and equipment are selected, prepared for the work and used appropriately.</p> <p>Precise technical and technological terms were used in the national language and communication was in line with work ethics and culture.</p>
<p>Requirements for methodological and material resources for teaching</p>	<p>Teaching (training) materials:</p> <ul style="list-style-type: none"> - Textbooks and other teaching materials - Test to assess competences - Legislation governing occupational safety and health requirements - Order of the Director of the State Food and Veterinary Office on the approval of biosecurity requirements for bovine, ovine and caprine animals on 8 July 2015. - Regulation on animal breeding - Law on animal breeding of the Republic of Lithuania - Law on Veterinary Medicine - Law on the Care, Keeping and Use of Animals - Biosecurity memos for cattle, sheep and goats; <p>Training tools:</p> <ul style="list-style-type: none"> - Technical tools to illustrate, visualise and present the teaching material - Animal posters and other tools - Tools and equipment for sheep rearing and care. - Tools and machinery for sheep farms. - Means for the marketing of sheep production - Working clothes, footwear, personal protective equipment - Farm animal clamping machines and tools.
<p>Requirements for the theoretical and practical training site</p>	<p>A classroom or other room equipped with technical means (computer, internet access, multimedia projector) for presenting teaching/learning materials.</p> <p>A classroom (room) for practical training with laboratory tables and equipment, udder health and milk quality testing equipment, instruments and reagents, a refrigerator, an electric cooker, equipment and instruments</p>



	<p>for shearing, milking, slaughtering.</p> <p>Sheep farms or holdings, sheep milking yards.</p> <p>Farmers' and company farms.</p>
<p>Requirements for teachers' subject-specific training (subject-specific qualifications)</p>	<p>The module can be taught by a teacher who has:</p> <ol style="list-style-type: none"> 1) the education and qualification set out in the Law on Education of the Republic of Lithuania and in the Description of Requirements for the Qualification of Teachers, approved by the Order of the Minister of Education and Science of the Republic of Lithuania No V-774 of 29 August 2014 on the approval of the Description of Requirements for the Qualification of Teachers; 2. a degree or equivalent qualification in livestock studies or secondary education and a qualification as an agricultural production business worker or equivalent, at least 3 years of professional experience in agricultural work and a certificate of completion of a course in pedagogical and psychological knowledge.

Module title - "Driving TR2 tractors"

Module LTKS level	III	
Requirements for personal readiness to study in the module (if applicable)	Completed this module: driving TR1 tractors	
5 credits: (Theory: 22 hours (20 per cent); Practice: 88 hours (80 per cent))		
Competences	Learning outcomes	Recommended content for achieving the learning outcomes
1. Drive tractors in category TR2.	1.1 Describe the design and operation of tractors of category TR2 (60 kW and above) and the principles of mounting mechanisms	<p>Topic. Design, operation of tractors with engine power of 60 kW and more</p> <p>- Technical characteristics and classification of tractors with engine</p>



	<p>on TR2 tractors (loaders, excavators, bulldozers, etc.).</p>	<p>power of 60 kW and more</p> <ul style="list-style-type: none">- Engine mechanisms and systems- Electrical and electronic equipment- Transmission- Chassis and controls- Operating and hydraulic equipment <p>Topic. Principles of installation of machinery on TR2 tractors (loaders, excavators, bulldozers, etc.)</p> <ul style="list-style-type: none">- Principles for mounting loaders on TR2 tractors- Principles for mounting excavators on TR2 tractors- Principles for mounting bulldozers on TR2 tractors
	<p>1.2. Knowledge of the occupational health and safety and environmental requirements for the operation of tractors, tractor-trailer combinations and agricultural machinery of category TR2.</p>	<p>Topic. Occupational safety and health requirements</p> <ul style="list-style-type: none">- Legislation governing employment relations, the environment and workers' responsibilities- Occupational health and safety requirements for working with tractors and agricultural machinery of category TR2 and combinations with trailers- Personal protective equipment- Use of fire extinguishers and extinguishing media- First aid for injuries and other effects <p>Topic. Safe transport and use of the vehicle</p> <ul style="list-style-type: none">- Safe use of tractors- Daily check before starting to work

		<p>with the tractor</p> <ul style="list-style-type: none"> - Loading and unloading
	<p>1.3 Describe the design and operation of agricultural machinery.</p>	<p>Topic. Agricultural machinery structures</p> <ul style="list-style-type: none"> - Design of machinery for tillage, fertiliser, sowing and planting, crop and plant maintenance, herbaceous fodder preparation in combination with TR2 tractors - Construction of machinery for harvesting and processing potatoes, sugar beet, flax in combination with tractors of category TR2 <p>Topic. Features of agricultural machinery operation</p> <ul style="list-style-type: none"> - Specific features of the operation of soil tillage, fertiliser, sowing and planting machines, crop and plant maintenance machines, herbaceous forage preparation machines in combination with TR2 tractors - Operating characteristics of potato, sugar beet, flax harvesting and processing machinery in combination with tractors of category TR 2
	<p>1.4 Describe the general requirements for the carriage of dangerous goods, trailers for the carriage of dangerous goods, the construction and operation of their subassemblies.</p>	<p>Topic. General requirements for the carriage of dangerous goods</p> <ul style="list-style-type: none"> - General provisions for the transport of dangerous goods, requirements for vehicles carrying dangerous goods - Requirements for the marking, stowage, handling and carriage of dangerous goods <p>Subject. Construction, operation of tractor vehicles</p> <ul style="list-style-type: none"> - Construction and operation of tractor-



		<p>trailers and other transport machinery</p> <ul style="list-style-type: none"> - Suspension and coupling devices and their use in trailer combinations with tractors of category TR2
	<p>1.5 Operate, program and control TR2 tractors and their combinations with trailers.</p>	<p>Topic. TR2 tractor control</p> <ul style="list-style-type: none"> - Starting the engine, starting and braking - Moving the tractor along a simple route - Driving on a difficult route (figure of eight, winding road, junctions) <p>Topic. Control of automatic control and programming systems</p> <ul style="list-style-type: none"> - Control of the action sequencing programme - Control of parallel driving, automatic steering, remote data transmission systems for tractors and their trailers
	<p>1.6 Operate agricultural machinery.</p>	<p>Topic. TR2 tractor combinations with agricultural machinery</p> <ul style="list-style-type: none"> - Setting up tractor units with machines for tillage, fertilising, sowing, planting, crop maintenance, plant care, herbaceous forage preparation - tractor combinations with potato, beet, flax harvesting and processing machines <p>Topic. Working on tractor units with agricultural machinery of category TR2</p> <ul style="list-style-type: none"> - Work on machines for tillage, fertilising, sowing, planting, crop maintenance, plant care, preparation of herbaceous forage - Work on potato, beet, flax harvesting and processing machines



	<p>1.7 Transporting goods with tractors and tractor-trailer combinations of category TR2.</p>	<p>Subject. Setting up, preparing and working with tractor-trailer combinations of category TR2</p> <ul style="list-style-type: none">- Preparation of tractor-trailer combinations- Preparation of tractor-trailer combinations for work <p>Topic. Transportation of loads with tractors and trailers of category TR2</p> <ul style="list-style-type: none">- Transportation of bulk goods- Transport of liquid loads
	<p>1.8 Drive a TR2 category tractor with mounted machinery.</p>	<p>Topic. Preparation of excavators, bulldozers, loaders and other special-purpose machinery mounted on TR2 category tractors</p> <ul style="list-style-type: none">- Selection of working parts for excavators, bulldozers, loaders and other special-purpose machinery mounted on TR2 tractors- Preparation for use of excavators, bulldozers, loaders and other special-purpose machinery mounted on TR2 tractors <p>Subject. Operation of backhoe loaders, bulldozers, loaders and other special-purpose machinery mounted on TR2 tractors</p> <ul style="list-style-type: none">- Driving backhoe loaders, bulldozers, loaders and other special-purpose machinery mounted on tractors of category TR2- Operation of machinery mounted on TR2 category tractors (loaders, excavators, bulldozers)

	<p>1.9 Transport dangerous goods.</p>	<p>Topic. TR2 Preparation of tractor-trailer combinations for transport of dangerous goods</p> <ul style="list-style-type: none"> - Preparation of tractor-trailer combinations for the transport of dangerous goods - Preparation of tractor-trailer combinations for the transport of dangerous goods <p>Subject. Transportation of dangerous goods by tractor-trailer combinations of category TR2</p> <ul style="list-style-type: none"> - Transportation of dangerous goods in medium capacity containers - Transportation of dangerous goods in a containerised form
<p>2. Maintain TR2 tractors.</p>	<p>2.1 Explain the maintenance of TR2 tractors, trailers, mounted machinery and agricultural machinery in accordance with the manufacturer's requirements.</p>	<p>Topic. Maintenance work on TR2 tractors and their assemblies</p> <ul style="list-style-type: none"> - Daily maintenance work on tractors of category TR1 - Periodic maintenance work in accordance with the manufacturer's requirements on tractors of category TR1 <p>Subject. Structural maintenance work on trailers and their assemblies</p> <ul style="list-style-type: none"> - Routine maintenance of trailers - Maintenance work on trailers during periodic maintenance according to the manufacturer's requirements <p>Subject. Maintenance work on agricultural machinery units with tractors of category TR2</p> <ul style="list-style-type: none"> - Daily maintenance work on tractor units with agricultural machinery of

		<p>category TR1</p> <ul style="list-style-type: none"> - Maintenance work on tractor units with agricultural machinery by means of periodic maintenance according to the manufacturer's requirements <p>Subject. Maintenance work on machinery mounted on tractors of category TR2 (loaders, excavators, bulldozers, etc.)</p> <ul style="list-style-type: none"> - Daily maintenance work on machinery mounted on TR1 category tractors - Periodic maintenance work in accordance with the manufacturers' requirements for the operation of machinery mounted on tractors of category TR1
	<p>2.2 Explain the diagnostic features and troubleshooting methods for TR2 tractors and agricultural machinery.</p>	<p>Topic. TR2 category tractors diagnostics peculiarities, troubleshooting methods</p> <ul style="list-style-type: none"> - Engine diagnostics, common faults and troubleshooting methods - Transmission and chassis diagnostics, common faults and troubleshooting - Hydraulic system and controls diagnostics, common faults and troubleshooting techniques <p>Topic. Diagnostics of vehicle combinations and agricultural machinery units with tractors of category TR2, specifics of faults and troubleshooting methods</p> <ul style="list-style-type: none"> - Troubleshooting of simple faults in tractor-trailer combinations with tractors of category TR2 - Diagnostics of tractor units with agricultural machinery of category TR2,



		simple troubleshooting techniques
	<p>2.3 Maintain TR2 tractors, trailers, mounted machinery and agricultural machinery in accordance with the manufacturer's requirements.</p>	<p>Topic. Maintenance work on TR2 tractors and their assemblies</p> <ul style="list-style-type: none">- Maintenance work on tractor engines- Maintenance work on tractor transmissions, undercarriages and control units- Maintenance of tractor operating and hydraulic equipment <p>Subject. Maintenance work on trailers and their assemblies</p> <ul style="list-style-type: none">- Trailer chassis maintenance work- Maintenance work on trailer hydraulics and pneumatics <p>Subject. Maintenance work on agricultural machinery units with TR2 category tractors</p> <ul style="list-style-type: none">- Maintenance work on soil tillage implements- Maintenance work on fertiliser machines- Maintenance work on sowing and planting machines- Maintenance work on crop and plant care machinery units- Maintenance work on grass fodder preparation machines- Maintenance work on harvesting and processing machinery <p>Subject. Maintenance work on machinery mounted on TR2 tractors (loaders, excavators, bulldozers, etc.)</p> <ul style="list-style-type: none">- Maintenance work on loaders mounted



		<p>on TR2 category tractors</p> <ul style="list-style-type: none"> - Maintenance work on excavators mounted on TR2 category tractors - Maintenance work on bulldozers mounted on TR2 tractors
	<p>2.4 Use consumables and chemicals in accordance with occupational health and safety and environmental requirements.</p>	<p>Topic. Selection of consumables for machinery</p> <ul style="list-style-type: none"> - Consumables for tractors and associated machinery - Selection of consumables <p>Topic. Proper use, storage and disposal of machinery consumables</p> <ul style="list-style-type: none"> - Proper use and storage of consumables - Recycling of used technical, chemical and other consumables in accordance with environmental requirements
	<p>2.5 Identify and rectify minor faults on TR2 tractors and agricultural machinery.</p>	<p>Topic. Troubleshooting of TR2 tractors and their assemblies</p> <ul style="list-style-type: none"> - Troubleshooting of tractor engines - Troubleshooting of tractor transmissions, chassis and control units - Troubleshooting of tractor operating and hydraulic equipment <p>Topic. Troubleshooting of simple faults on tractor units with agricultural machinery of category TR2</p> <ul style="list-style-type: none"> - Troubleshooting of soil tillage implements - Troubleshooting of fertiliser machinery units - Troubleshooting of sowing and planting machine units - Troubleshooting of crop and plant care

		<p>machinery units</p> <ul style="list-style-type: none"> - Troubleshooting of herbaceous forage harvesting machinery - Troubleshooting of harvesting and processing machinery units
	<p>2.6 Prepare TR2 tractors, trailers, mounted machinery and agricultural machinery for transport and storage.</p>	<p>Topic. Transport preparation of TR2 tractors and their attachments</p> <ul style="list-style-type: none"> - Preparation for transport of tractors and their mounted machinery - Preparation for transport of tractor-mounted agricultural implements - Preparation for transport of tractor-trailer combinations <p>Subject. Preparation for storage of tractors of category TR2 and their attachments</p> <ul style="list-style-type: none"> - Preparation for storage of tractors and their mounted machinery - Preparation for storage of tractor-mounted agricultural implements - Preparation for storage of tractor-trailer combinations
<p>Criteria for assessing learning outcomes</p>	<p>Describes the principles of design and operation of TR2 tractors, and the principles of mounting mechanisms on TR2 tractors (loaders, excavators, bulldozers, etc.). The rules of the road, road safety and occupational health and safety requirements when working with TR2 tractors. Describes the construction and operation of soil tillage, sowing, planting, crop and plant care machinery, grass fodder preparation machinery, harvesting and processing machinery. General requirements for the transport of dangerous goods, the construction and operation of trailers and their assemblies. Operate, program and control tractors and their units and combinations with trailers. Worked with soil cultivation, sowing, planting machines, crop and plant care machines, grass fodder preparation machines, harvesting and processing machines. Worked on machinery mounted on TR2 category tractors (loaders, excavators, bulldozers, etc.). Transport of dangerous goods on a TR2 tractor with trailer. The maintenance of TR2 tractors, trailers, mounted machinery and</p>	

	<p>agricultural machinery in accordance with manufacturers' requirements is explained. Explain the diagnostic features and troubleshooting methods for TR2 tractors and agricultural machinery. Maintain TR2 tractors, trailers, mounted machinery and agricultural machinery in accordance with manufacturers' requirements. Selected, stored and disposed of consumables and chemicals in accordance with occupational safety and health requirements. Identified and rectified minor faults on TR2 tractors, agricultural machinery. TR2 tractors, trailers, mounted machinery and agricultural machinery prepared for transport and storage.</p> <p>Appropriate work clothing and footwear and personal protective equipment were worn. On completion of the work, the work area is cleaned and tidied, tools are cleaned and any remaining materials are placed in their storage area. The work was carried out to a high standard, in accordance with the work technology and occupational health and safety requirements; materials and equipment were selected, prepared for the work and used appropriately. Precise technical and technological terms were used in the national language and communication was in line with work ethics and culture.</p>
<p>Requirements for methodological and material resources for teaching</p>	<p>Teaching (training) materials:</p> <ul style="list-style-type: none"> - Textbooks and other teaching materials - Test to assess competences - Occupational safety and health requirements - Operating instructions for tractors with an engine power of 60 kW or more - Operating instructions for agricultural machinery - Descriptions of practical tasks <p>Training(si) tools:</p> <ul style="list-style-type: none"> - Technical tools to illustrate, visualise and present the training material - Engine power units, parts for tractors of 60 kW and above - Tractors of 60 kW and over (wheeled, tracked, forestry) and combinations with trailers, combinations with agricultural machinery, tractors with mounted machinery of 60 kW and over - Equipment and means for the maintenance of machinery - Consumables for machinery



	<ul style="list-style-type: none"> - Tools for maintenance, diagnosis and troubleshooting of machinery - Personal protective equipment
<p>Requirements for the theoretical and practical training site</p>	<p>A classroom or other teaching/learning space with technical facilities (computer, internet access, multimedia projector) for presenting teaching/learning materials.</p> <p>A classroom/room for practical training equipped with tractors (wheeled, tracked, forestry) of 60 kW engine power and above, and with trailers and trailers, units with agricultural machinery, tractors with mounted machinery of 60 kW engine power and above, equipment and tools, consumables, tools for maintenance, diagnostics and minor fault rectification.</p> <p>Agricultural machinery (tillage, fertilising, sowing, planting machinery, crop and plant care, preparation of herbaceous forage, harvesting and processing).</p> <p>Practical driving training ground.</p> <p>Field work with tractor units.</p> <p>Repair workshop for agricultural machinery.</p> <p>Personal protective equipment.</p> <p>Translated with DeepL.com (free version)</p>
<p>Requirements for teachers' subject-specific training (subject-specific qualifications)</p>	<p>The module can be taught by a teacher who has:</p> <ol style="list-style-type: none"> 1) the education and qualification set out in the Law on Education of the Republic of Lithuania and in the Description of Requirements for the Qualification of Teachers, approved by the Order of the Minister of Education and Science of the Republic of Lithuania No V-774 of 29 August 2014 on the approval of the Description of Requirements for the Qualification of Teachers; 2. a university degree or higher education or equivalent qualification (education) as an agricultural mechanic or at least 3 years of professional experience as a technical supervisor.

Title of the module - "Driving self-propelled agricultural machinery category SZ"

Module LTKS level	III
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<p>Requirements for personal readiness to study in the module (if applicable)</p>	<p>Completed this module: driving TR1 tractors</p>	
<p>5 credits: (Theory: 22 hours (20 per cent); Practice: 88 hours (80 per cent))</p>		
Competences	Learning outcomes	Recommended content for achieving the learning outcomes
<p>1. Operate category SZ self-propelled agricultural machinery.</p>	<p>1.1 Describe the design and operating principles of category SZ self-propelled agricultural machinery.</p>	<p>Topic. Agricultural machinery structures, category SZ</p> <ul style="list-style-type: none"> - Harvester construction - Sugar beet harvester design - Construction of potato harvesters - Design of self-propelled crushers for raw materials <p>Topic. Technological processes and operating principles of agricultural machinery of category SZ</p> <ul style="list-style-type: none"> - Technological process and operation of combine harvesters - Technological process and operation of sugar beet harvesters - Technological process and operation of potato harvesters - Technological process and operation of self-propelled crushers <p>Topic. Agricultural machinery structures, category SZ</p> <ul style="list-style-type: none"> - Harvester construction - Sugar beet harvester design



		<ul style="list-style-type: none"> - Construction of potato harvesters - Design of self-propelled crushers for raw materials <p>Topic. Technological processes and operating principles of agricultural machinery of category SZ</p> <ul style="list-style-type: none"> - Technological process and operation of combine harvesters - Technological process and operation of sugar beet harvesters - Technological process and operation of potato harvesters - Technological process and operation of self-propelled crushers
	<p>1.2. Knowledge of the occupational health and safety and environmental requirements for the operation of self-propelled agricultural machinery in category SZ.</p>	<p>Topic. Occupational safety and health requirements</p> <ul style="list-style-type: none"> - Legislation on employment relations, the environment and workers' liability - Personal protective equipment - First aid for injuries and other effects - Use of fire extinguishers and extinguishing media <p>Topic. General health and safety requirements for workers working with self-propelled agricultural machinery of category SZ</p> <ul style="list-style-type: none"> - Safety rules for working with combine harvesters - Health and safety signs when working with combine harvesters - Specifics of safe working with self-propelled crushers - Safe towing and lifting of harvesters

	<p>1.3 Operate, program and monitor the operation of self-propelled agricultural machinery and implements in category SZ.</p>	<p>Topic. Road safety, general requirements for work</p> <ul style="list-style-type: none"> - Permissible heights, widths, permits - Exercise on general requirements and safe driving of self-propelled machinery - Safe driving in special conditions - Working with category SZ self-propelled agricultural machinery <p>Topic. Operation of automatic control and programming systems</p> <ul style="list-style-type: none"> - Control of the action sequencing programme - Control of parallel driving, automatic steering, remote data transmission systems for category SZ machines - Control of automatic control systems for category SZ machines - Calibration procedures for category SZ machines
<p>2. Maintain category SZ self-propelled agricultural machinery.</p>	<p>2.1 Explain the maintenance of category SZ self-propelled agricultural machinery according to the manufacturer's requirements.</p>	<p>Topic. Maintenance work on the engine, transmission, chassis and electrical equipment of agricultural machinery of category SZ</p> <ul style="list-style-type: none"> - Routine maintenance work on cereals, sugar beet, flax, potatoes, combine harvesters, self-propelled crushers - Periodic maintenance work on cereals, sugar beet, flax, potatoes, combine harvesters, self-propelled crushers in accordance with the manufacturer's requirements <p>Subject. Maintenance work on machinery, plant and equipment for agricultural machinery of category SZ</p> <ul style="list-style-type: none"> - Periodic maintenance work on process



		<p>machinery and equipment for cereals, sugar beet, flax, potatoes, combine harvesters, self-propelled crushers</p> <ul style="list-style-type: none">- Periodic maintenance work on the process machinery and equipment of cereals, sugar beet, flax, potatoes, combine harvesters, self-propelled crushers, according to the manufacturer's requirements
	<p>2.2 Explain the operation, adjustment, diagnostics and troubleshooting of self-propelled agricultural machinery of category SZ.</p>	<p>Topic. Features of operation, adjustment of self-propelled agricultural machinery of category SZ,</p> <ul style="list-style-type: none">- Specific features of operation, adjustment of combine harvesters- Particularities of operation, adjustment of sugar beet harvesters- Particularities of operation, adjustment of flax harvesters- Operation, adjustment features of potato harvesters- Characteristics of the operation, adjustment of self-propelled crushers for raw materials <p>Topic. Diagnosis of self-propelled agricultural machinery of category SZ, troubleshooting methods</p> <ul style="list-style-type: none">- Diagnosis of combine harvesters, common faults and troubleshooting methods- Sugar beet combine harvester diagnostics, common faults and troubleshooting methods- Flax harvester diagnostics, common faults and troubleshooting techniques- Potato harvester diagnostics, common



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		<p>faults and troubleshooting techniques</p> <ul style="list-style-type: none"> - Diagnosis of self-propelled crushers, common faults and troubleshooting methods
	<p>2.3 Maintain category SZ self-propelled agricultural machinery in accordance with the manufacturer's requirements.</p>	<p>Topic. Maintenance work on the engine, transmission, chassis and electrical equipment of agricultural machinery of category SZ</p> <ul style="list-style-type: none"> - Maintenance work on the engine, transmission, chassis, electrical and hydraulic systems of combine harvesters - Maintenance work on the engine, transmission, chassis, electrical and hydraulic systems of sugar beet harvesters - Maintenance work on the engine, transmission, chassis, electrical and hydraulic systems of flax harvesters - Maintenance work on the engine, transmission, chassis, electrical and hydraulic systems of potato harvesters - Maintenance work on the engine, transmission, chassis, electrical and hydraulic systems of self-propelled crushers for raw materials <p>Subject. Maintenance work on machinery, equipment and working parts of agricultural machinery of category SZ</p> <ul style="list-style-type: none"> - Maintenance work on machinery, equipment and working parts of combine harvesters - Maintenance work on sugar beet harvesters' process machinery, equipment and working parts - Maintenance work on machinery,

		<p>equipment and working parts of flax harvesters</p> <ul style="list-style-type: none"> - Maintenance work on potato harvesters' process machinery, equipment and working parts - Maintenance work on process machinery, equipment and working parts of self-propelled crushers for raw materials
	<p>2.4. Use, store and dispose of consumables and chemicals in accordance with occupational health and safety and environmental requirements.</p>	<p>Topic. Selection of consumables for machinery</p> <ul style="list-style-type: none"> - Consumables for self-propelled agricultural machinery of category SZ - Selection of consumables <p>Topic. Proper use, storage and disposal of machinery consumables</p> <ul style="list-style-type: none"> - Proper use and storage of consumables - Recycling of used technical, chemical and other consumables in an environmentally sound manner
	<p>2.5 Identify and rectify minor faults on category SZ self-propelled agricultural machinery.</p>	<p>Topic. Detection of simple faults in category SZ machines and their assemblies</p> <ul style="list-style-type: none"> - Troubleshooting of simple faults in combine harvesters and their assemblies - Troubleshooting of sugar beet harvesters and their assemblies - Troubleshooting of flax harvesters and their assemblies - Troubleshooting of potato harvesters and their assemblies - Troubleshooting of non-serious faults in self-propelled crushers and their sub-assemblies for raw materials



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		<p>Topic. Troubleshooting of non-complex faults in category SZ machines and their assemblies</p> <ul style="list-style-type: none">- Troubleshooting of non-complex faults in combine harvesters and their assemblies- Troubleshooting of sugar beet harvesters and their non-complex units- Troubleshooting of flax harvesters and their non-complex units- Troubleshooting of potato harvesters and their sub-assemblies- Troubleshooting of non-complex malfunctions of self-propelled crushers and their subassemblies
	<p>2.6 Prepare category SZ self-propelled agricultural machinery for transport and storage.</p>	<p>Topic. Preparation of self-propelled agricultural machinery of category SZ for transport</p> <ul style="list-style-type: none">- Preparation of combine harvesters for transport- Preparation of sugar beet harvesters for transport- Preparing flax harvesters for transport- Preparation for transport of potato harvesters- Preparation for transport of self-propelled crushers for raw materials <p>Subject. Preparation for storage of self-propelled agricultural machinery of category SZ</p> <ul style="list-style-type: none">- Preparation for storage of combine harvesters- Preparation for storage of sugar beet harvesters

		<ul style="list-style-type: none"> - Preparing flax harvesters for storage - Preparation for storage of potato harvesters - Preparation for storage of self-propelled shredders for raw materials
<p>Criteria for assessing learning outcomes</p>	<p>Describes the design and operating principles of self-propelled agricultural machinery of category SZ. Describes the health and safety requirements for workers when working with category SZ self-propelled agricultural machinery. Operated, programmed and controlled the operation of category SZ self-propelled agricultural machinery. Worked with category SZ self-propelled agricultural machinery. Explained the maintenance of category SZ self-propelled agricultural machinery according to the manufacturer's requirements. Explain the operation, diagnostic features and troubleshooting of category SZ self-propelled agricultural machinery. Maintenance of category SZ self-propelled agricultural machinery in accordance with the manufacturer's requirements. Selected the use, storage and disposal of consumables and chemicals in compliance with occupational health and safety and environmental requirements. Identified and rectified minor faults on category SZ self-propelled agricultural machinery. Prepared category SZ self-propelled agricultural machinery for transport and storage.</p> <p>Wearing appropriate work clothing and footwear and personal protective equipment. Cleaning and tidying up the work area at the end of the work, cleaning tools and putting the remaining materials in their storage place. The work was carried out to a high standard, in accordance with the work technology and occupational health and safety requirements; materials and equipment were selected, prepared for the work and used appropriately; precise technical and technological terms were used in the national language; communication was in accordance with the principles of work ethic and culture.</p>	
<p>Requirements for methodological and material resources for teaching</p>	<p>Teaching (training) materials:</p> <ul style="list-style-type: none"> - Textbooks and other teaching materials - Test to assess competences - Occupational safety and health requirements - Operating instructions for SZ self-propelled agricultural machinery - Descriptions of practical tasks 	

	<p>Training(si) tools:</p> <ul style="list-style-type: none"> - Technical tools to illustrate, visualise, present the training material - SZ self-propelled agricultural machinery assemblies, components - Cereal, sugar beet, flax, potato harvesters, green pulpers - Equipment and tools for machinery maintenance - Consumables for machinery - Tools for maintenance, diagnosis and troubleshooting of machinery - Personal protective equipment
<p>Requirements for the theoretical and practical training site</p>	<p>A classroom or other teaching/learning space with technical facilities (computer, internet access, multimedia projector) for presenting teaching/learning materials.</p> <p>A classroom/room for practical training, equipped with combine harvesters for cereals, sugar beet, flax, potatoes, green pulp crushers, equipment and tools, machine consumables, tools for maintenance, diagnostics, minor troubleshooting of machines.</p> <p>Practical driving training ground.</p> <p>Field work with agricultural machinery of category SZ.</p> <p>Repair workshop for agricultural machinery.</p> <p>Personal protective equipment.</p>
<p>Requirements for teachers' subject-specific training (subject-specific qualifications)</p>	<p>The module can be taught by a teacher who has:</p> <ol style="list-style-type: none"> 1) the education and qualification set out in the Law on Education of the Republic of Lithuania and in the Description of Requirements for the Qualification of Teachers, approved by the Order of the Minister of Education and Science of the Republic of Lithuania No V-774 of 29 August 2014 on the approval of the Description of Requirements for the Qualification of Teachers; 2. a higher or post-secondary qualification (education) as an agricultural mechanic or equivalent, or at least 3 years' professional experience as a technical supervisor.



6.4. THE FINAL MODULE

Module title - "Introduction to the labour market"

National code	
Module LTCS level	IV
Volume in learning credits	5
Competences	Learning outcomes
1. Build work skills in a real workplace.	1.1. To assess and demonstrate the competences acquired in the workplace. 1.2 Familiarise yourself with the specifics of your future job and adapt to the real workplace. 1.3. to assess their personal potential for integration into the labour market.
Criteria for assessing learning outcomes	The proposed assessment for the final module is pass/fail.
Requirements for methodological and material resources for teaching	No
Requirements for the theoretical and practical training site	A workplace where you can consolidate your competences as an agricultural worker.
Requirements for teachers' subject-specific training (subject-specific qualifications)	Student learning during the module is guided by a teacher who has: 1) the education and qualification set out in the Law on Education of the Republic of Lithuania and in the Description of Requirements for the Qualification of Teachers, approved by the Order of the Minister of Education and Science of the Republic of Lithuania No V-774 of 29 August 2014 on the approval of the Description of Requirements for the Qualification of Teachers; 2. a degree in agricultural studies or equivalent, or secondary education and a qualification as an agricultural production business worker or equivalent, at least 3 years of professional experience in agricultural work and a certificate of completion of a course in pedagogical and psychological knowledge. The apprentice's supervisor in charge of the apprenticeship in the actual workplace must have at least 3 years' experience in agricultural occupations.



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