



AgriTech Solutions: Innovating VET for Sustainable Agriculture
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2024-1-RS01-KA210-VET-000244168

REPORT

From the realization of an activity

1.2 Research on curriculum update

Background

Within the framework of the AgriTech Solutions project: Innovative VET for Sustainable Agriculture with project number 2024-1-RS01-KA210-VET-000244168, funded by the Erasmus + program of the European Union, the activity **1.2 Research for updating the curriculum** is being implemented.
program.

The main objective of this project is to advance vocational education and training (VET) in sustainable agriculture through the introduction of project-based learning (PBL), focusing on sustainable and technologically advanced agricultural practices, inclusiveness and accessibility for all students.

This project strives to combine theoretical knowledge with practical applications, thus preparing **students** with the necessary skills to deal with modern agricultural challenges.

Purpose of the activity

The aim of the activity is to conduct in-depth research to obtain the necessary information on updating the curriculum, focusing on sustainable agricultural practices, precision agriculture, organic farming, renewable energy sources and the use of technology in agriculture.

Activity results

Collected necessary information to update the curriculum on current industry insights, best practices, and technological advancements through a review of literature, expert consultations and field visits.



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Applied methodology

Gathering necessary information to update the curriculum on current industry insights, best practices, and technological advancements through **a review of literature, expert consultations and field visits**

Review of existing literature

Within the framework of this activity, a review **of existing literature and existing qualifications** for sustainable agricultural practices, precision agriculture, organic farming, renewable energy sources and the use of technology in agriculture.

Review of available literature and materials

Through this activity, lists of available literature and materials for sustainable agricultural practices, precision agriculture, organic agriculture, renewable energy sources and the use of technology in agriculture were created. The identified literature and materials were put into a report. The activity was implemented in the period from January to March 2025. This activity covered 6 teachers from different schools and regions in Macedonia. For each area, the teachers created a list of identified available literature and materials, a report on the review of available literature and materials and a summary report.

The engaged teachers created:

- List of identified available literature and materials on sustainable agricultural practices
- List of identified available literature and materials on organic agriculture
- List of identified available literature and materials for precise agriculture
- List of identified available literature and materials on renewable sources of energy
- List of identified available literature and materials for use by agricultural technology
- Report Review of available literature and materials on renewable energy sources energy
- Report Review of available literature and materials on the use of technology in agriculture



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- ÿ Report Review of available literature and materials on precision agriculture
- ÿ Report Review of available literature and materials on organic farming
- ÿ Report Review of available literature and materials on sustainable agricultural practices practices

Result

Lists of information on available literature and materials on sustainable agricultural practices, precision agriculture, organic farming, renewable energy sources and the use of technology in agriculture have been created.

Area	Available materials identified
Sustainable agricultural practices	55
Precision farming	52
Organic farming	56
Renewable energy sources	54
Use of technology in agriculture	56
Total	273

Review of existing qualifications

Existing qualifications in the agriculture, fisheries and veterinary sectors have been analyzed for the prevalence of sustainable agricultural practices, the precise agriculture, organic farming, renewable energy sources and the use of technology in agriculture.

The information obtained from the analysis was put into a report. The activity took place in the period March-June 2025. This activity covered 2 teachers from different schools and regions in Macedonia. For each qualification, the teachers created an overview of the qualification and a summary report.

The engaged teachers created:

- ÿ Qualification review
- ÿ Qualification Review Report



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Result

Qualifications in the agriculture, fisheries and veterinary sectors were analyzed for the presence of sustainable agricultural practices, precision agriculture, organic agriculture, renewable energy sources and the use of technology in agriculture for which students are educated. 5 qualifications at level 4 (Agrotechnician, Agrotechnician for traditional and organic production, Phytomedicine Technician, Agromanagement Technician and Veterinary Medicine Technician) and 1 qualification at level 3 (Gardener Florist) were analyzed.

Professional consultations

Within the framework of this activity, expert consultations were held with experts in the field of sustainable agricultural practices, precision agriculture, organic agriculture, renewable energy sources and the use of technology in agriculture.

expert consultations with at least one expert per field.

The aim of the activity is to obtain direct information from professional experts on best practices and technological advances in sustainable agricultural practices, precision agriculture, organic farming, renewable energy sources and the use of technology in agriculture. This activity covered 6 teachers.

The information obtained from the consultations with the experts has been included in a report. The activity will be implemented in the period from March to June 2025.

The engaged teachers created:

- Minutes of expert consultations
- Expert consultation report

Result

Expert consultations were conducted with at least one expert per area in the agriculture, fisheries and veterinary sectors. The expert consultations aimed to obtain relevant information from experts working in the fields of sustainable agricultural practices, precision agriculture, organic farming, renewable energy sources and the use of technology in agriculture.

Consultations were carried out with experts from ZZ "STUBA", TD DZP KLECHOVCE LLC, ADUT GVN, AG FUTURA Technologies, "KAV KOMERC AND AGRO KAV KOMERC", COMPANY "STOJCHEVI and WINERY ARBESKA", INDIVIDUAL FARMER MARJAN TANCHEV, LISA - KOM KAVADARCI, INDIVIDUAL FARMER STEFAN STOJCHEV, AGRIJA LLC,



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Individual farmers groups and individuals, IZ Branko Atanasov, Livestock Farm, Tatjana Mladenovska, graduate agricultural engineer and other experts and companies.

Consultations were conducted with some of the companies in several areas, taking into account their operations. Field visits were also conducted with some of these companies and experts.

Area	Experts/organizations
Sustainable agricultural practices	Company "Stoychevi" " village of Sopot Arabeska Winery Group of individual farmers TD DZP Klechovce LLC Tatjana Mladenovska, graduate agricultural engineer
Precision farming	Stojan Mitrov Lisa – Com from Kavadarci Greenhouse Growers AG Future Technologies (AGFT)
Organic farming	ADUT GVN LLC Individual agricultural holding Branko Atanasov Marjan Tanchev Tatjana Mladenovska, graduate agricultural engineer
Renewable energy sources	"STUBA" Public Health Center Group of individual farmers Greenhouses LLC Petre Temov, Kav Komerc and Agro Kav Komerc Tatjana Mladenovska, graduate agricultural engineer
Use of technology in agriculture	Stefan Stojchev



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	IZ Petrushevi, Sveti Nikole Strumica Livestock Farm "STUBA" Public Health Center
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Field visits

Within the framework of this activity, field visits were made to companies/organizations/institutions operating in the field of sustainable agricultural practices, precision agriculture, organic farming, renewable energy sources and the use of technology in agriculture.

The aim of the activity is to provide current industry insight into best practices and technological advances in sustainable agricultural practices, precision agriculture, organic farming, renewable energy sources and use of technology in agriculture. This activity covered 6 teachers.

The information obtained from the field visits has been included in a report. The activity will be implemented in the period from March to June 2025.

The engaged teachers created:

- Minutes of expert consultations
- Expert consultation report

Result

Field visits were made to at least one company per area in the agriculture, fisheries and veterinary sectors. The field visits provided insight into best practices and technological advances among relevant and successful companies working in the fields of sustainable agricultural practices, precision agriculture, organic farming, renewable energy sources and the use of technology in agriculture.

Field visits were carried out to the following companies: ZZ "STUBA", TD DZP KLECHOVCE DOOEL, ADUT GVN, AG FUTURA Technologies, "KAV KOMERC", "AGRO KAV KOMERC", COMPANY "STOJCHEVI and WINERY ARBESKA", INDIVIDUAL FARMER MARJAN TANCHEV, LISA - KOM KAVADARCI, INDIVIDUAL FARMER STEFAN STOJCHEV, AGRIJA DOOEL, Individual farmers groups and individual farmers, IZ Branko Atanasov, Livestock farm, Citizens' Association - Center for Herbalism, Tourism and Sustainable Development



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BILKILIFE Chucher Sandevo, social enterprise, SUGS "Braka Miladinovci" and others companies.

An insight was made into several areas of some of the companies, taking into account their operations. For some of these companies, professional consultations with experts were also carried out.

Area	Experts/organizations
Sustainable agricultural practices	TD DZP Klechovce LLC Company "Stoychevi" " village of Sopot Arabeska Winery Citizens' Association - Center for Herbalism, Tourism and Sustainable Development BILKILIFE Chucher Sandevo Social enterprise SUGS "Miladinov Brothers"
Precision farming	AG Future Technologies (AGFT) IZ Stojan Mitrov Lisa – Com from Kavadarci
Organic farming	ADUT GVN LLC IZ Branko Atanasov IZ Marjan Tanchev Citizens' Association - Center for Herbalism, Tourism and Sustainable Development BILKILIFE Chucher Sandevo Social enterprise SUGS "Miladinov Brothers"
Renewable energy sources	"STUBA" Public Health Center Greenhouses LLC Kav Commerce Agro Kav Commerce



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	Citizens' Association - Center for Herbalism, Tourism and Sustainable Development BILKILIFE Chucher Sandevo Social enterprise SUGS "Miladinov Brothers"
Use of technology in agriculture	"STUBA" Public Health Center FROM Stefan Stojchev IZ Petrushevi, Sveti Nikole Strumica Livestock Farm Citizens' Association - Center for Herbalism, Tourism and Sustainable Development BILKILIFE Chucher Sandevo Social enterprise SUGS "Miladinov Brothers"

In Skopje

The report was prepared by

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