

**FIRST INTERNATIONAL SCIENTIFIC AGRI-BUSINESS CONFERENCE  
"AGRO MAK" 2025.**

**"ORGANIC AND FUNCTIONAL FOOD WITH RURAL TOURISM -  
SUSTAINABILITY AND FUTURE OF MACEDONIA AND THE REGION  
OF SOUTHEASTERN EUROPE"**

**ПРВА МЕЃУНАРОДНА НАУЧНО АГРО-БИЗНИС КОНФЕРЕНЦИЈА  
"АГРО МАК" 2025**

**"ОРГАНСКА И ФУНКЦИОНАЛНА ХРАНА СО РУРАЛЕН ТУРИЗАМ -  
ОДРЖЛИВОСТ И ИДНИНА НА МАКЕДОНИЈА И РЕГИОНОТ НА  
ЈУГОИСТОЧНА ЕВРОПА"**

# **PROCEEDINGS**

**Editor:  
Dragan Cvetkovic**

**EDITION: EcoAgroTour - FOR SUSTAINABLE DEVELOPMENT **

**Sveti Nikole, North Macedonia  
04. – 06. April, 2025.**

Chamber of Organic Producers– COP, Kumanovo, Republic of North Macedonia,  
Комора на Органски Производители– КОП, Куманово, РС Македонија

International Slavic University, Sveti Nikole, Republic of North Macedonia  
Меѓународен Славјански Универзитет, Свети Николе, РС Македонија

**Organise**

**FIRST INTERNATIONAL SCIENTIFIC AGRI-BUSINESS CONFERENCE  
ПРВА МЕЃУНАРОДНА НАУЧНО АГРО-БИЗНИС КОНФЕРЕНЦИЈА**

**In cooperation with:**

Center for Research, Science, Education, and Mediation "CINER",  
Belgrade, Serbia  
Центар за Истражување, Наука, Едукација и Посредување "ЦИНЕП",  
Белград, Србија

Association for Development of Agriculture and Environmental Protection through  
Research, Education, and Biodiversity Conservation "ZIVOT," Kumanovo, Republic  
of North Macedonia

Здружение за развој на земјоделство и заштита на животната средина преку  
истражување, едукација и одржување на биодиверзитет "ЖИВОТ",  
Куманово, РС Македонија

**Publisher:**

Association Life, Kumanovo,

**Из**

**даИздавач:**

Здружение Живот, Куманововач:

**Editor:**

Mr. Dragan Cvetkovic

**Уредник:**

Драган Цветковиќ

**Issue editor:**

Prof. PhD. Sasa Stepanov

**Technical editor and Graphic design:**

Gorjan Cvetkovic

**Editorial board / Reviewers**

Prof. PhD Jordan Gjorchev, North Macedonia  
Prof. PhD Ljupcho Mihajlov, North Macedonia  
Prof. PhD Todor Petkovic, Serbia  
MsC. Julijana Pandurevic, Canada

**Circulation:**

50 exemplars

**Year of Publishing 2025**

Година на издавање 2025

**Printed by:**

Grafoteks, Kumanovo

## C O N T E N T S

### INVITED SPEAKERS

|               |  |           |
|---------------|--|-----------|
| <b>I – 1.</b> | <b>Ljupčo Mihajlov, Zoran Dimov</b><br>DRAFT PLAN FOR HARMONIZATION OF THE MACEDONIAN ORGANIC PRODUCTION WITH THE EU REGULATION 2018/848   | <b>15</b> |
| <b>I – 2.</b> | <b>Eleonora Delinikolova, Vezirka Jankuloska</b><br>POTENTIAL USE OF COLD PRESSED BLACK SEED OIL IN PRODUCING NOVEL FOOD AND FUNCTIONAL FOOD                                       | <b>24</b> |
| <b>I – 3.</b> | <b>Siniša Kresović, Paun Lučanović, Đorđe Čabilovski</b><br>THE QUALITY OF RURAL DEVELOPMENT - ANALYSIS, STRATEGIES, AND CHALLENGES  | <b>34</b> |
| <b>I – 4.</b> | <b>Boyko Sokolovski, Orce Spasovski, Jordan Gorčev, Dragan Cvetkovic,</b><br>THE APPLICATION OF ZEOLITES FOR IMPROVING STANDARDS AND CONDITIONS IN MODERN LIVING                   | <b>46</b> |
| <b>I – 5.</b> | <b>Saša Stepanov, Blagica Gavrilovska Cvetkovic, Radovan Subin</b><br>IS IT A NEW TIME - TIME FOR RURAL TOURISM?   | <b>55</b> |
| <b>I – 6.</b> | <b>Sara Stanić Jovanović</b><br>APITURISM AS A DEVELOPMENT OPPORTUNITY FOR RURAL TOURISM AND AGRO-BUSINESS   | <b>67</b> |
| <b>I – 7.</b> | <b>Drago V. Cvijanović, Aleksandra Vujko, Dušica P. Cvijanović,</b><br>HARNESSING GASTRONOMY: THE ROLE OF SUSTAINABLE TOURISM AND LOCAL PRODUCTS IN RURAL DEVELOPMENT              | <b>77</b> |
| <b>I – 8.</b> | <b>Tamara Jurina, Ana Jurinjak Tušek, Davor Valinger, Maja Benković, Jasenka Gajdoš Kljusurić</b><br>HOW LOCAL AGRICULTURAL PRODUCTION REDUCES THE CO 2 FOOTPRINT OF FOOD CONSUMED | <b>85</b> |

### PLENARY PRESENTATIONS

|               |   |            |
|---------------|---|------------|
| <b>P – 1.</b> | <b>Jean Vasile Andrei, Ovidiu Condeianu, Bianca-Florentina Nistoroiu, Mihalcea Mihai Viorel, Papadopol Paula Irene</b><br>A ROMANIAN PERSPECTIVE ON THE NEXUS LABOR, ENERGY AND AGRICULTURAL PERFORMANCE IN SOME EUROPEAN UNION COUNTRIES       | <b>95</b>  |
| <b>P – 2.</b> | <b>Todor Petković, Mirko Petković, Saša Stepanov</b><br>IMPACT OF ECONOMY, ENERGY AND ECOLOGY ON SUSTAINABLE DEVELOPMENT  | <b>107</b> |
| <b>P – 3.</b> | <b>Maxim Ekaterina Aleksandrovna, Lugovoy Mikhail Mikhailovich, Yakovlev Evgeny Alekseevich, Yurin Denis Anatolyevich, Skamarokhova Alexandra Sergeevna</b><br>STUDY OF CHOLINE CHLORIDE REPLACEMENT WITH BETAINES MOLASSES IN STURGEON GROWING | <b>123</b> |
| <b>P – 4.</b> | <b>Aco Kuzelov, Nadica Bajraktarova, Dimitar Nakov</b><br>INFLUENCE OF ORGANIC VERSUS CONVENTIONAL PIG PRODUCTION ON MEAT QUALITY AND FATTY ACID COMPOSITION  | <b>127</b> |
| <b>P – 5.</b> | <b>Daniela Pelivanoska - Dameska, Ljupco Mihajlov, Natalija Markova Ruzdik</b><br>OPPORTUNITIES FOR CULTIVATION OF WILD FLAX - CAMELINA SATIVA (L.) CRANTZ IN THE PRILEP PRODUCTION REGION  | <b>134</b> |
| <b>P – 6.</b> | <b>Ivana Mladićević, Nemanja Stepanov, Saša Stepanov</b><br>ANALYSIS OF SUCCESSFUL AND UNSUCCESSFUL TECHNOLOGICAL ENTREPRENEURIAL VENTURES  | <b>139</b> |

|                |  |            |
|----------------|--|------------|
| <b>P – 7.</b>  | <b>Danijela Raičević, Tamara Pejanović, Jovana Kojić, Radmila Pajović Šćepanović, Tatjana Popović</b><br>THE INFLUENCE OF ENOLOGICAL MEANS ON THE CHEMICAL COMPOSITION AND SENSORY CHARACTERISTICS OF VRANAC AND KRATOSIJA WINES                 | <b>155</b> |
| <b>P – 8.</b>  | <b>Juliana Pandurević, Stan Wachon</b><br>UNDERSTANDING THE “GREENHOUSE OF THE FUTURE”: HARNESSING NEW TECHNOLOGY TO TACKLE FOOD PRODUCTION INDUSTRY CHALLENGES  | <b>164</b> |
| <b>P – 9.</b>  | <b>Milan Novović, Paun Lučanović</b><br>CIRCULAR ECONOMY: A NEW BUSINESS MODEL OF SUSTAINABILITY IN RURAL TOURISM  | <b>170</b> |
| <b>P – 10.</b> | <b>Silvana Pashovska, Karolina Kočoska, Nataša Zdraveska</b><br>MOVEMENTS AND TRENDS IN THE PRODUCTION OF ORIENTAL TOBACCO IN MACEDONIA  | <b>178</b> |
| <b>P – 11.</b> | <b>Milan V. Šoškić, Sonja D. Radenković, Ivan Ivanović,</b><br>REDUCING BUSINESS RISKS WITH THE HELP OF ARTIFICIAL INTELLIGENCE IN AGRIBUSINESS  | <b>184</b> |
| <b>P – 12.</b> | <b>Biljana Matejić, Dragan Cvetkovic, Blagica Gavrilovska Cvetkovic</b><br>"ORGANIC PRODUCTION AS A SUSTAINABLE APPROACH TO AGRICULTURE: PRODUCING 'FOOD FOR THE SOUL' WITH MINERAL FORTE PLUS"  | <b>189</b> |
| <b>P – 13.</b> | <b>Gorica Cvijanović, Marija Bajagić, Boro Krstić</b><br>SYNERGY OF SUSTAINABLE AGRICULTURE AND RURAL TOURISM  | <b>208</b> |
| <b>P – 14.</b> | <b>Skamarokhova Alexandra Sergeevna, Yurin Denis Anatolyevich</b><br>METHOD OF PREPARING A PLANT COMPONENT FOR A PROTEIN FUNCTIONAL FEED ADDITIVE  | <b>217</b> |
| <b>P – 15.</b> | <b>Dragica Stojanovic, Paun Lucanovic, Vladimir Stankovic</b><br>MODELS FOR EVALUATING THE SUSTAINABILITY OF TOURISM: CREATING A SUSTAINABLE REGIONAL FUTURE   | <b>222</b> |
| <b>P – 16.</b> | <b>Tanja Stojanovska, Tatjana Kalevska, Nevena Gruevska, Viktorija Stamatovska</b><br>COMPARISON OF ORGANIC AND CONVENTIONALLY PRODUCED FOOD   | <b>230</b> |
| <b>P – 17.</b> | <b>Raluca Andreea Ion, Maria Cristina Sterie, Ramona Ovidia Popa</b><br>ETHICAL DIMENSION OF SUSTAINABLE DEVELOPMENT OF AGRICULTURE – LEGISLATIVE APPROACHES   | <b>240</b> |
| <b>P – 18.</b> | <b>Milena Magerovska, Kristina Tomska</b><br>FERMENTED MILK PRODUCTS AS FUNCTIONAL FOOD AND SOURCE OF PROBIOTICS   | <b>246</b> |
| <b>P – 19.</b> | <b>Marija Bešlin Feruh, Biljana Knežević</b><br>ETHICAL CHALLENGES IN THE MARKETING OF ORGANIC PRODUCTS IN SERBIA  | <b>255</b> |
| <b>P – 20.</b> | <b>Emil Rekanović, Miloš Stepanović, Milica Milošević, Svetlana Milijašević-Marčić, Ivana Potočnik, Jelena Stepanović, Bojan Duduk</b><br>FIELD EFFICACY OF BIOFUNGICIDE EKSTRASOL F IN THE CONTROL OF BOTRYOTINIA FUEKELIANA AND MONILINIA SPP. | <b>261</b> |
| <b>P – 21.</b> | <b>Nimetula Ramadani</b><br>IMPACT OF POTATO IMPORTS ON THE PRICE OF POTATOES IN NMK   | <b>267</b> |
| <b>P – 22.</b> | <b>Stojan Srbinoski</b><br>POSSIBILITY OF USING SMART SYSTEMS IN IRRIGATION, AS A RESPONSE TO THE NEGATIVE IMPACT OF CLIMATE CHANGE  | <b>273</b> |
| <b>P – 23.</b> | <b>Neshe Salih, Vezirka Jankuloska</b>   | <b>282</b> |



|                |   |            |
|----------------|---|------------|
|                | THE NUTRITIONAL AND THERAPEUTIC IMPACT OF BLACKCURRANT (RIBES NIGRUM) SEED OIL  |            |
| <b>P – 24.</b> | <b>Jelena Tasić, Ivan Živanović, Jelena Petrović</b><br>SOCIO-ECONOMIC AND SOCIO-CULTURAL IMPACT OF TOURIST ATTRACTIONS – EVENT TOURISM ON SERBIA'S ECONOMIC PROSPERITY WITH A SPECIAL FOCUS ON THE RURAL AREAS OF ŠUMADIJA | <b>288</b> |
| <b>P – 25.</b> | <b>Miljan Joksimović, Miomir Jovanović, Aleksandra Despotović</b><br>THE IMPORTANCE OF RURAL TOURISM AND AGRICULTURE FOR THE DEVELOPMENT OF THE NORTHERN REGION OF MONTENEGRO   | <b>302</b> |
| <b>P – 26.</b> | <b>Milivoje Čosić, Irina Čosić, Miroljub Ivanović</b><br>PSYCHO-SOCIAL PREDICTORS OF SUPPORT FOR RURAL TOURISM ON A SAMPLE OF THE SERBIAN POPULATION  | <b>311</b> |
| <b>P – 27.</b> | <b>Lilya Gevorgyan</b><br>DEVELOPMENT OF ORGANIC PRODUCTION IN THE EU: IMPLEMENTATION OF THE PLAN UNTIL 2027.   | <b>320</b> |
| <b>P – 28.</b> | <b>Nikola Jovanović</b><br>DIGITALIZATION AND INNOVATIONS IN AGRICULTURE: CHALLENGES AND OPPORTUNITIES FOR SUSTAINABLE PRODUCTION   | <b>327</b> |
| <b>P – 29.</b> | <b>Dana Petrovic</b><br>CULTURAL HERITAGE AND RURAL AREAS AS A BASIS FOR DEVELOPMENT OF TOURIST DESTINATIONS IN SERBIA AND ALBANIA  | <b>337</b> |

## SESSION A

---

|               |  |            |
|---------------|--|------------|
| <b>A – 1.</b> | <b>Bratimir Nešić, Jelena Malenović Nikolić, Miloš Cvetković, Miodrag Šmelcerović</b><br>NEGATIVE IMPACT OF THE NON-SANITARY LANDFILL ON AGRICULTURE - A CASE STUDY OF THE LANDFILL DUBOKO, SERBIA   | <b>344</b> |
| <b>A – 2.</b> | <b>Vesna Knights, Olivera Petrovska, Tatjana Blazevska, Marija Prčkovska</b><br>DIGITALIZATION AND INNOVATIONS IN AGRICULTURE: CHALLENGES AND OPPORTUNITIES FOR SUSTAINABLE PRODUCTION   | <b>345</b> |
| <b>A – 3.</b> | <b>Berat Durmishi, Vesna Knights, Viktorija Stamatovska, Valentina Pavlova, Gorica Pavlovska, Smajl Rizani, Demokrat Nuha, Arbrie Bytyci</b><br>STATISTICAL ANALYSIS OF THE PRESENCE OF MINERALS IN HONEY SAMPLES FROM MACEDONIA, KOSOVO AND ALBANIA ENRICHED WITH FIVE PLANT EXTRACTS | <b>347</b> |



## APITURISM AS A DEVELOPMENT OPPORTUNITY FOR RURAL TOURISM AND AGRO-BUSINESS

### APITURIZAM KAO RAZVOJNA PRILIKA ZA RURALNI TURIZAM I AGRO-BIZNIS

Sara Stanić Jovanović, Research Associate<sup>15</sup>

**Abstract:** In recent years, apitourism or beekeeping tourism has become a modern trend in the tourism market, as well as a development opportunity in the field of agro-business. Originating less than a decade ago in the Republic of Slovenia, after the Government of this country adopted a strategy for integrating beekeeping and tourism, it can be classified as selective, that is, specific or special forms of tourism. Due to the health benefits in the field of apitherapy, it is often associated with health tourism, while its characteristics are inevitably connected to rural tourism.

**Key words:** apitourism, rural tourism, development, chance

**Apstrakt:** U poslednjim godinama, apiturizam ili pčelarski turizam predstavlja savremeni trend na turističkom tržištu, ali i razvojnu priliku u oblasti agro-biznisa. Nastao pre manje od jedne decenije u Republici Sloveniji, nakon što je Vlada ove zemlje usvojila strategiju integracije pčelarstva i turizma, može se svrstati u selektivne, odnosno specifične ili posebne oblike turizma. Zbog zdravstvenih benefita u segmentu apiterapije, često se povezuje sa zdravstvenim turizmom, dok su njegove karakteristike neizbežno povezane sa ruralnim turizmom.

**Ključne reči:** apiturizam, ruralni turizam, razvoj, prilika.

## 1. INTRODUCTION

The tourism market has been facing numerous changes in recent years, both in the segment of tourist demand and in the segment of tourist supply. Modern tourists are no longer satisfied with standardized tourist packages designed for mass tourism demand; instead, they seek something new. They are typically experienced travelers, with a higher level of education, digitally literate, and eager to embark on new adventures. In addition to satisfying so-called recreational and cultural needs, i.e., the provision of transportation and accommodation services, the modern tourist seeks something more – a specific experience, an adventure, authenticity, as well as an opportunity to explore local traditions, customs, cuisine, etc.

an effort to meet the demands and satisfy the changing tourist demand in the tourism market, tourism providers are creating tourism products referred to as special or selective, i.e., specific forms of tourism, based on unique resources, attractive values, and the quality of tourist destinations. In this context, in recent years, rural areas have become increasingly interesting, popular, and promising spaces for the development of this specific type of tourism. Designing a

<sup>15</sup> Institute of Social Sciences, Belgrade, Serbia, e-mail: sstanic@idn.org.rs

Academy of Vocational Studies Šumadija, Arandjelovac Section, Serbia, e-mail: sjovanovic@asss.edu.rs

high-quality program for staying in rural areas surrounded by nature as the core tourism product of rural tourism is an important process that requires analyzing the quality of service provision, as well as the potential to enrich non-accommodation tourism offerings. A significant role in improving rural tourism and agribusiness, with considerable development effects, is played by apitourism or beekeeping tourism, which is becoming an increasingly popular trend in the tourism market.

## **2. CONCEPT AND CHARACTERISTICS OF APITOURISM**

Hosts, through rural tourism services, have the opportunity to sell surplus agricultural products, often at significantly higher prices than market rates. The development of rural tourism is gaining increasing importance due to its potential contribution to the social and economic renewal of rural areas and the revitalization of villages. This form of tourism is based on sustainability principles, offering tourists elements of rural life, nature, and traditional hospitality (Stanić Jovanović, et al, 2025).

Rural tourism leads to agricultural tourism or agro tourism, which also includes beekeeping tourism. Beekeeping tourism positively affects regional development and provides additional income to beekeepers in countries where environmental protection awareness is established (Suna, et al, 2020).

Apitourism is an innovative form of agritourism where tourists learn about the life and work of bees, bee products, and everything related to beekeeping. It also offers special services such as inhaling air from the beehive, honey massages, honey baths, cosmetics based on bee products, and more. In short, apitourism focuses on raising awareness about the importance of bees in the ecosystem, beekeeping, and educating visitors about the life and work of bees, the functioning of the bee community, and the production of bee products. Currently, apitourism is becoming increasingly popular due to the growing interest in apitherapy and wellness, which includes bee products (Škaro, 2021).

Apitourism combines sustainable, niche, heritage and health tourism. It is a new tourism product and a new research topic (Tišler & Šuligoj, 2020).

Apitourism is a form of tourism that deals with the culture and traditions of rural communities and can be considered one of the most sustainable methods of development and tourism (Fathi, et al, 2022).

Apitourism is not yet fully utilized and has significant potential for growth and development. It requires a great deal of effort and knowledge, as well as attracting a large number of people who will recognize the importance of apitourism and the healing properties of bee products. Apitourism holds much more potential. Through apitourism, visitors can relax, unwind, have fun, and even learn something new. First and foremost, visitors can participate in a small workshop organized by the local tourism community. After the workshop, they learn how honey is extracted, and at the end, they reap the fruits of their labor, enjoying them through food, massage, wellness treatments, and similar experiences (Bakavić, 2020).

The interest in bee products as well as inhalations of air from the hive, thanks to their good results that they have shown on human health, especially in post-covid recovery, have attracted a lot of attention from both apitherapy service providers and users (Hegić, 2022).

Apiforestry – the combination of forestry and beekeeping, especially in chestnut forests, provides an opportunity for the development of innovative activities and services based on beekeeping, such as apitherapy, which is a health segment of beekeeping or apitourism (Franić, 2019).

In this context, the emergence of apitourism marks a new trend in tourism with an emphasis on the importance of bees and the numerous opportunities offered by engaging in this centuries-old craft. The use of bee products and apitherapy in daily life has been known since ancient times, but the potential for creating innovative tourism stories has not been sufficiently utilized (Peruško, 2024).

Apitourism offers an excellent opportunity for the development of an economically viable specialization. The idea of the developing apitourism stems from the fact that there is increasing interest in the use of bee products in cuisine, cosmetics, therapy and prevention. Providers of apitourism do not only sell bee products and crops, but its own story. Through their story of specialization and niche tourism, they have the opportunity to create added value to their products. By offering apitourism as competitive advantage, they create experiences. Customers and visitors not only buy their products, but they hear the story of bees, why they are important to humanity, why bee products have so much positive effects on humans, especially through personal presentation in an authentic environment they see, experience and learn about the importance of bees for the existence of humanity (Korošec, 2022).

Unlike classic types of health tourism, such as exploiting water and climate, apitourism is only in the initial stages of development. On the global scale, Slovenia is one of the leading countries in the development of this type of tourism, as the first steps in apitourism were taken there (Šuligoj, 2021).

Beekeeping encourages the socio-economic revitalization of rural areas, diversifies agricultural production, and offers new opportunities for both beekeepers and tourists (Topal, et al, 2021). It is one of the most popular and rapidly growing types of tourism in the modern world, mostly due to the growing interest of tourists of all ages in spending their holidays enjoying bee products (i.e., honey, propolis, royal jelly). Tourists are interested in learning the secrets of technology, i.e., how make high-quality honey and its related products. Hives become travel objects for tourists. The goods in the manufacture of which tourists personally participate are particularly attractive to them (Aliyeva, et al, 2019).

Apitourism combines sustainable beekeeping, niche, historical heritage, and health tourism as an intersection between tradition, alternative medicine, and the sustainable income-generating activity of the beekeeper (Beigi, 2018; Tišler, Šuligoj, 2020; Vos, 2014). The increasing interest in beekeeping has led to one of the most sustainable forms of travel. The knowledge of this millenary art and its determining role in the preservation of biodiversity leads to current diverse educational experiences such as: attending the different talks and workshops offered globally, becoming a beekeeper for a day, seeing the live honey collection, acquiring knowledge of local gastronomy, supporting artisan crafts, and taking part in flora and honey routes. These activities are part of Apitourism, a growing concept that thanks to successful and long-lasting examples, such as the case of Slovenia, encourages local and proximity tourism (Izquierdo-Gascón, Rubio-Gil, 2023).

Following modern trends in the international tourism market, in recent years apitourism or beekeeping tourism, as a subtype of health tourism, is getting a chance for accelerated development. This type of tourism is more recent, and it is translated as beekeeping tourism and implies various benefits in health prevention from the consumption of beekeeping products to staying in the immediate environment of bees (Stanić Jovanović, et al, 2023).

This type of tourism is more recent, and is translated as beekeeping tourism, and implies various benefits in the prevention of health, from consuming beekeeping products to staying in the direct

vicinity of bees (Jovanović, et al, 2023).

Apitourism is a form of tourism that encompasses activities such as observing, experiencing, and tasting honeybees and beekeeping products. The increasing interest in apitourism has also caught the attention of the scientific community, this situation constitutes a current research area for the scientific world (Dönmez, 2023).

Experiencing apitourism activities creates a more positive opinion in tourists. It is understood that apitourism guides are knowledgeable about bee biology, fun, hospitable, passionate about their job and proficient in foreign languages. Visitors expressed the guides' expertise in this field with expressions such as "bee apiologist", "walking encyclopedia", "bee doctor", "bottomless wealth" and "bee wizard" (Dönmez, 2024).

Apitourism is becoming more popular internationally and internally. It is a niche that if used properly, can be a powerful catalyst for beekeeping in the country (Grigorova, et al, 2016).

### **3. BEEKEEPING AND THE USE OF HONEY IN THE PAST**

Beekeeping, as one of the oldest agricultural professions, has played a significant role throughout history to the present day. The history of bees dates back deeply into the past, and numerous archaeological findings testify to beekeeping as one of the oldest branches of agriculture. Honey, the most well-known bee product, was valued less than beeswax in the past, which had greater value until the end of the 19th century (Đukić, Stubičar, 2023).

The oldest fossil of a bee cited by scientists is a recent discovery of a bee that is 100 million years old, which has been remarkably preserved in amber. This discovery proves that this newly found bee is 35 to 45 million years older than other known bee fossils (Cramp, 2012). So far, there is no reliable evidence regarding when bees first appeared on Earth or when humans began to keep them. It is believed that the homeland of the honeybee is India. In ancient times, bees lived in forests in tree hollows, small caves, underground holes, and various other suitable places that they found themselves and inhabited. Beekeeping emerged in the distant past, starting with the first encounters between humans and bees in nature. Preserved monuments of ancient material culture testify that early humans persistently searched for honey, knowing its delicious and nutritious properties. The first data about the role of bees in the lives of early humans date back to the Paleolithic era, when a drawing was found on the wall of a cave in the Aran Sand Dunes in Valencia (Spain), depicting two "beekeepers" climbing a vertical rock. All known ancient civilizations were interested in bees and greatly benefited from them. The ancient Egyptians and

Assyrians were among the first to keep bees. The ancient Greeks learned the art of beekeeping from the Egyptians, and the Romans from the Greeks. The emblem of Upper Egypt was the lotus flower, while that of Lower Egypt was the bee. Bees were regularly depicted on the tombs of the first dynasty of pharaohs. The ancient Egyptians used propolis for faster wound healing and for embalming the remains of pharaohs. Clay beehives and other items from 3,400 BC have been found on the island of Crete. In the "Odyssey," Homer mentions details about honey, and in the "Iliad," he compares large crowds of people to dense bee swarms. Hippocrates, the most famous Greek physician and founder of medicine, prescribed honey to both healthy and sick people in the 5th century BC (<https://spos.info/rad/pcelarstvo-u-praistoriji-i-starom-veku/> accessed: 12.03.2025).

Honey holds a special place in the culinary traditions of various cultures around the world. In India, honey is an important ingredient in Ayurvedic medicine and is used in various dishes and

beverages. In Middle Eastern cuisine, honey is often drizzled over desserts such as baklava and used in savory dishes like honey-glazed chicken. In China, honey is used both as food and as a traditional medicine. In Western cultures, honey is a popular sweetener and is used in a wide range of recipes, from baked goods to salad dressings. The diverse use of honey in different cultures highlights its universal appeal and versatility as an ingredient  
<https://www.mojakosnica.com/blog/zanimljive-cinjenice-o-medu-koje-mozda-niste-znali/accesed: 12.03.2025>).

#### **4. THE ORIGIN OF APITOURISM**

Apitourism can be described as an innovative form of agro-tourism and an alternative form of health or spa tourism. It focuses on raising awareness about the importance of bees in the ecosystem and beekeeping, and it is becoming increasingly popular due to the growing interest in apitherapy and wellness. This requires special organization, spatial planning, and specific training of the api-host. Specifically, a beekeeper involved in apitourism must be educated in various fields: biology, zoology, chemistry, and economics. Additionally, apitourism requires knowledge of marketing, hospitality, psychology, foreign languages, as well as the ability to provide first aid in case of bee stings, including potentially life-threatening anaphylactic shock. This type of active vacation is the result of numerous studies showing that beekeepers live longer than their peers in other professions. Apitourism was born in Slovenia in 2016, after the Slovenian government, at the suggestion of the beekeeping association, became the first to adopt a strategy for integrating beekeeping and tourism. Slovenia is the world's leading destination for beekeeping, or "apitourism," with over 10,000 beekeeping farms and more than 17,000 beekeeping colonies, and is one of the first countries to offer certified apitourism services. The Slovenian Tourist Organization and the Slovenian Beekeeping Association have jointly developed a series of initiatives for a sustainable approach to apitourism. They provided support to travel agencies in creating packages that offer tourists interesting combinations of rich eco-content, such as wellness vacations combined with local honey tastings. This trend spread globally, and api-centers began to develop in many countries, from Croatia, Bosnia and Herzegovina, and Serbia to Greece and the United States. Apitourism experienced a boom in Serbia and the region after the outbreak of the COVID-19 pandemic, when people began to turn to nature and a healthier lifestyle. Following the proposal of the Slovenian Beekeeping Association, the United Nations General Assembly declared May 20, 2017, as World Bee Day. Serbia supported this initiative because its beekeeping industry is similar to that of Slovenia. Beekeeping is highly developed in both countries, and it represents an important agricultural sector. World Bee Day has been celebrated worldwide since 2018. The date commemorates the birthday of Anton Janša, the founder and teacher of modern beekeeping in the 18th century (Jovanović, et al., 2023).

Taking into consideration that beekeepers are faced with new trials almost daily, primarily related to climate change, but also infectious and invasive bee diseases, it is evident that beekeeping is quite an insecure occupation if beekeeping production is not developed and the range of products and services is not expanded within the beekeeping household. It is precisely for this reason that apitherapy and apitourism are included in the offer since every beekeeper without excessive initial investments (except for upgrading knowledge) could have a new additional source of income. The business of apitherapy and apitourism should be taken seriously, as well as any other job, with the awareness that knowledge, skill and ability are necessary in addition to desire (Hegić, 2022).

The court beekeeper of Empress Maria Theresa and academic painter was born in Breznica (now Slovenia) in 1734. In his youth, he made a studio in a barn with his brothers. Soon afterwards, although illiterate, they went to Vienna and enrolled in the painting academy. He developed an

interest in beekeeping since his father had 100 beehives. In 1770, Maria Theresa appointed him the court beekeeper and the first imperial instructor in the monarchy. He became the first appointed teacher of beekeeping. He kept bees in the imperial gardens and traveled, presenting his observations on the migration of beehives to various pastures. After his death, Maria Theresa published his 'Complete Guide to Beekeeping' and issued a decree obliging all beekeeping teachers to use his book ([https://sr.wikipedia.org/sr-el/Anton\\_Janša](https://sr.wikipedia.org/sr-el/Anton_Janša)/accessed: 12.03.2025.).

Slovenia was the first in the world to develop apitourism - an innovative tourist product that is a combination of tourism and beekeeping. It is a unique travel experience and a form of sustainable and responsible tourism linked to the tradition of beekeeping. Currently, there are already 45 certified providers of apitourism services in Slovenia. We are the only ones in the world to have beekeeping tourist guides (<https://sca.kis.si/hr/education/apiturizam-2/>accessed: 12.03.2025.).

In California, there are already several api-centers that, in addition to the beekeeping experience, offer their guests enjoyment and relaxation in spa centers that are surrounded by an aerosol of beehives. In addition to honey massages and other health and beauty treatments with bee products, these specialized ranches offer stays in api-chambers, which are the equivalent of living in a beehive and where people breathe air from the hive that is rich in bioactive compounds. Visitors have the opportunity to get to know the world of bees on the spot in the apiary. The technique of honey production is presented to them, they can spin it and taste it. Workshops on the importance of bee products, making ointments, balms, creams, liqueurs and everything else that is obtained by combining honey and medicinal plants are organized (Jovanović, et al, 2023).

## **5. APITURISM AS A DEVELOPMENT OPPORTUNITY FOR RURAL TOURISM AND AGRO-BUSINESS**

Beekeeping tourism, or more commonly known as apitourism, represents one of the newer special, selective, or specific forms of tourism. Often associated with health tourism due to its health benefits for the body, it is primarily linked to health prevention through the use of bee products and the practice of apitherapy. On the other hand, it can be directly connected to rural tourism, as well as agritourism and agro-business, since agricultural farms rich in beehives and apiaries have become attractive apitourism destinations. Following contemporary trends in changing tourist demand and expectations, significant effects and accelerated development are anticipated for this form of tourism. Apitourism could play an important role in improving the guest experience in rural tourism, particularly as a small, often family-run form of agro-business.

Different authors and tourism theorists associate apitourism or beekeeping tourism with both health tourism and rural and agritourism. An undeniable fact is that apitourism, besides being a contemporary trend and a relatively new form of special, selective, or specific tourism, can also contribute to enriching the tourist experience in rural areas, raising the quality of services in rural tourism, and more efficient valorization of rural and agritourism resources. This would ensure the foundation for additional employment in agro-business and the economic empowerment of rural households, through the opportunity to creatively design apitourism products. Ultimately, the attractiveness of rural tourism destinations implies a developed agro-business based on organic, local cuisine of the area and preserved natural surroundings in line with environmental protection principles. In this regard, ecological preservation is a fundamental prerequisite for the development of rural tourism and agro-business, while apitourism represents their developmental opportunity for creating a sustainable tourist destination.

The concept of sustainable development based on preserved natural resources, active participation, and the promotion of tradition, culture, and life in rural communities, along with the integrated tourist offering of rural tourist products expressed through the creativity of rural

hosts and beekeepers, forms the basis for the development of apitourism and guarantees the success of agro-business.

The main characteristic of apitourists is that this form of tourism is predominantly chosen by smaller groups, families with children, individual tourists, and so-called weekend tourists, who wish to spend shorter holidays during the year as an escape from city crowds.

This form of tourism was greatly influenced by the active period of the COVID-19 pandemic, during which people began to focus much more on health prevention and staying in undisturbed rural environments. Additionally, apitherapy has proven to be an exceptionally suitable choice for treating so-called "manager's disease" and relieving the daily stress to which we are all exposed.

Api-centers, in this sense, become centers of so-called "slow forms of tourism," which align with green, sustainable, and ecotourism principles. Rural households and ethno-villages, as small, often family-run agro-businesses in rural tourism that have beehives, should base their offerings on educational facilities, active participation, and entertainment for children. A specific zone for receiving tourists, as well as informing them and introducing them to the local apitourism offer, can serve as a welcome info-center, complete with a souvenir shop.

Since active participation is one of the key characteristics of apitourism, organizing lectures, workshops, and courses that include learning about traditions, customs, lifestyle, and daily tasks in rural beekeeping communities, as well as visiting farms, apiaries, and hives, and educating about the life and significance of bees, the use of bee products, honey extraction, making balms and creams, and utilizing apitherapy and additional activities, is of particular importance for the development of this special form of tourism.

The offer of additional content can include: honey massages, cosmetics based on honey and bee products, gastronomic offerings (honey meals, honey wine, honey brandy, etc.), with a special focus on offerings for younger visitors (e.g., making wax souvenirs, painting honey cookies, photographing in front of the "bee hotel," etc.). Children's animation can be achieved through the organization of creative games themed around honey and bees, as well as involving local amateur theater groups, folklore societies, or screening documentaries on beekeeping and the life of bees.

Examples of good practice from the Republic of Slovenia indicate the creation of api-routes, api-itineraries, as well as the education and involvement of api-tourist guides. Networking and cooperation between beekeeping farms and agro-businesses in rural tourist destinations, on one side, and providers of tourist offers and representatives of the public sector and professional associations, on the other side (tourist agencies, hoteliers, rehabilitation centers, health institutions, spas, local tourist organizations, destination management organizations, clusters, pensioners' associations, as well as preschool/school/student institutions and other public institutions), represents an important prerequisite for the development of this type of tourism.

A stay in an api-tourist destination can take the form of: extended weekends or summer vacations in rural households (for families), so-called "schools in nature" (for artists and nature lovers), training (for athletes, recreationalists), camps (for children, students, certain homogeneous visitor groups), team buildings (for companies), as well as congresses, meetings, conferences, and other events (so-called "MICE" industry); of course, depending on the accommodation capacity (number and structure of beds) and the possibilities for full-board and half-board meals.

Directly proportional to the length of stay is the richness of natural (caves, canyons, gorges, mountains, and volcanic cones, as the most sought-after geomorphological tourist motives; lakes,



rivers, canals, streams, thermal mineral springs, and marshes, along with seas, as hydrographic tourist motives, among which there is especially great interest in waterfalls, sinkholes, and cascades; as well as attractive flora and fauna, national parks, natural monuments, especially endemics and relics as biogeographical tourist motives) and anthropogenic resources (sacral architecture, museums, galleries, fortresses, castles, industrial heritage objects; as well as objects of folk architecture such as roller mills, watermills, mills, inns, old houses, huts, log cabins, etc.), in the immediate surroundings, as well as the possibility of organizing trips, excursions, and sightseeing programs.

Enriching the stay by including attractive rural activities in the apitourism offer, such as: organizing local beekeeping, gastronomic, and/or village festivals (fairs, markets, events, etc.); tractor/wagon/sledge rides; donkey/horse riding (depending on the season and the host's agro-business possibilities); hiking/adventure tours; collecting forest fruits, and more, contributes to an extended stay, repeated visits, and the creation of an authentic experience, thus elevating the quality level and visibility of rural and api-tourism products and agro-business on the tourist market.

## 6. CONCLUSION

Following contemporary trends in the rural tourism market and the agro-business sector, beekeeping tourism or apitourism has become an increasingly sought-after part of the offer in recent years, both in terms of health prevention and as a way of enriching the stay. The consequences of the coronavirus pandemic, along with modern diseases such as the "manager's disease" and the impact of stress in people's daily lives, have contributed to the increased demand for products and services in rural and agrotourism. In addition to organic production and environmental sustainability as the fundamental prerequisites for the development of tourism in rural areas, a specific offer such as apitourism can represent a development opportunity in the sector of small, mostly family-owned agro-businesses.

Tourist interest in rural and agrotourism, specifically beekeeping tourism and the use of various beekeeping products, needs to be promoted through continuous education for both rural hosts and tourists. The creation of special api-tourism products and services could also incorporate local gastronomy, tradition, customs, and folklore; introducing visitors to the richness and multiculturalism of folk crafts, as well as the use of old trades and tools. All of these elements together, in the era of globalization, represent a segment of highly valued, unique, and authentic tourism products that are especially exotic for foreign tourists and domestic visitors from large cities.

## REFERENCES

- Aliyeva, Z. N., Baiburiyev, R. M., Lorant, D. D., Shagyrbay, A. S., Kaliaskarova, Z.K., (2019). Problems and Prospects of Development of Apitourism in Kazakhstan. *Bull. Natl. Acad. Sci. Repub. Kazakhstan*, 6, 45–53.
- Bakavić, J., (2020). *Pčelarstvo i turizam* (Doctoral dissertation, University of Pula. Faculty of economics and tourism" Dr. Mijo Mirković").
- Beigi, H., (2018). Api-Tourism, Bees Tourism. *Honeybee Sci. J.* 9, 12–18.
- Cramp, D. (2012), *Pčelarstvo*, Rijeka, Leo-commerce.
- Dönmez, N. A., (2023). Apiturizm araştırmaları: Sistematik literatür incelemesi. *TÜRK TURİZM ARAŞTIRMALARI DERGİSİ*, 7(4), 685-699.
- Dönmez, N. A., (2024)., Turist Perspektifinden Apiturizm: Rehberli Turlara İlişkin Ziyaretçi Yorumlarının İncelenmesi. *Journal of Travel & Hospitality Management /Seyahat ve Otel İşletmeciliği Dergisi*, 21(2).

- Đukić, Z., Stubičar, R., (2023). Pčele kroz povijest. *Cris: Časopis Povijesnog društva Križevci*, 25(1), 105-110.
- Grigorova, Z., Timareva, S., Shopova, I., (2016). Resources for apitourism in Bulgaria. *Journal of Economic Development, Environment and People*, 5(2), 79-89.
- Fathi, M. R., Torabi, M., Razi Moheb Saraj, S., (2022). The future of apitourism in Iran based on critical uncertainty approach and DEMATEL/COPRAS techniques. *Journal of Tourism Futures*.
- Franić, Z., (2019). Apišumarstvo–pčelarstvo i šumarstvo. *Šumarski list*, 143(3-4), 171-178.
- Hegić, G., (2022)., Razvoj apiterapije i apiturizma u Republici Hrvatskoj. *Beekee ping & Bee Products*. Zbornik radova sa sedmog kongresa o pčelarstvu i pčelinjim proizvodima, sa međunarodnim učešćem - Pčelarstvo i pčelinji proizvodi, Sarajevo: Udruženje za nutricionizam i dijetetiku „Hranom do zdravlja“ i Prehrambeno – tehnološki fakultet Sveučilišta Josipa Jurja Strossmayera u Osijeku.
- Korošec, T. A., (2022). Kako prodati pčelarsko iskustvo, a ne samo pčelinje proizvode. *Beekeeping Bee Products*. Zbornik radova sa sedmog kongresa o pčelarstvu i pčelinjim proizvodima, sa međunarodnim učešćem - Pčelarstvo i pčelinji proizvodi, Sarajevo: Udruženje za nutricionizam i dijetetiku „Hranom do zdravlja“ i Prehrambeno –tehnološki fakultet Sveučilišta Josipa Jurja Strossmayera u Osijeku.
- Moguš Peruško, Z., (2024). Potencijali razvoja apiturizma u Karlovačkoj županiji kao pretpostavka za održivi razvoj destinacije (Doctoral dissertation, VERN University).
- Jovanovic, S. S., Simicevic, D., Mihailovic, D., (2023). Apitourism as a development opportunity for health tourism-a case study of surčin city municipality. In *The First International Conference CASB: Health Tourism and Hospitality* (pp. 81-87).
- Izquierdo-Gascón, M., & Rubio-Gil, Á., (2023). Theoretical approach to Api-tourism routes as a paradigm of sustainable and regenerative rural development. *Journal of Apicultural Research*, 62(4), 751-766.
- Stanić Jovanović, S., Jovanović, A., Miletović, N., (2023). Apitourism - Modern Trend and an Opportunity for the Development of Medical Tourism, *Conference Proceedings, 13th International Scientific Conference - Science and Higher Education in Function of Sustainable Development - SED 2023*, <https://sed.akademijazs.edu.rs/fajlovi/papers/proceedings/3-49.pdf>
- Stanić Jovanović, S., Ilić, B., Miletović, N., (2025). Is Rural Tourism an Opportunity for the Development and Revitalization of the Municipality of Arandelovac? In J. Subić, M. Jovanović Todorović, M. Nedeljković, J.V. Andrei (Ed.), *Sustainable Agriculture and Rural Development V. Proceedings* (pp. 831-841). Belgrade: Institute of Agricultural Economics. January 2025. <https://www.iep.bg.ac.rs/sr/izdanja/tematski-zbornici>
- Suna, B., (2020). Turizmde Arıcılı Ğın Kullanımına Ke,sifsel Bir Yolculuk. *Anatolia: Turizm Ara,stirmaları Dergisi*, 31, 19–30.
- Tišler, V., Šuligoj, M., (2020). Apiturizem kot presečišče tradicije, zdravilstva in Čebelarjeve trajnostne pridobitne dejavnosti//Apitourism as an intersection of tradition, alternative medicine and the beekeeper’s sustainable income-generating activity. *Geografski vestnik*, 92(2), 63-73.
- Topal, E., Adamchuk, L., Negri, I., Kösoğlu, M., Papa, G., Dârjan, M. S., Mărgăoan, R., (2021). Traces of honeybees, api-tourism and beekeeping: From past to present. *Sustainability*, 13(21), 11659.
- Škaro, K., (2021). Organizacijska, finansijska i marketinška obilježja pčelarskog gospodarstva usmjerenog na apiturizam (Doctoral dissertation, University of Zagreb. Faculty of Veterinary Medicine).
- Šuligoj, M., (2021). Origins and development of apitherapy and apitourism. *Journal of Apicultural Research*, 60(3), 369-374.
- Wos, B., (2014). Api-tourism in Europe. *J. Environ. Tour. Anal.* 2, 66–74.

<https://spos.info/rad/pcelarstvo-u-praistoriji-i-starom-veku/>accessed: 12.03.2025.).  
<https://www.mojakosnica.com/blog/zanimljive-cinjenice-o-medu-koje-mozda-niste-znali/>accessed: 12.03.2025.  
[https://sr.wikipedia.org/sr-el/Anton\\_Janša/](https://sr.wikipedia.org/sr-el/Anton_Janša/)accessed: 12.03.2025.).  
<https://sca.kis.si/hr/education/apiturizam-2/>accessed: 12.03.2025.

CIP - Каталогизација во публикација  
Народна библиотека на Северна Македонија, Скопје

,