

Institute of Agriculture and Tourism: from 1875 to 2020





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For the publisher: Dr Dean Ban

Text selection and preparation:

Dr Ana Težak Damijanić

Dr Aldo Milotić

Marija Pičuljan, mag. oec.

Dr Igor Lukić

Dr Anita Silvana Ilak Peršurić

Dr Barbara Sladonja

Danko Cvitan, bacc. ing. agr.

Selection and preparation of images:

Marin Krapac, PhD.

Ana Težak Damijanić, PhD.

Photos: Iva Bažon, Karolina Brkić Bubola, Kristina Brščić, Marijan Bubola, Marko Černe, Adriano Fabreti, Sara Godena, Kristina Grozić, Ivana Horvat, Anita Silvana Ilak Peršurić, Nina Išić, Marin Krapac, Igor Lukić, Marina Lukić, Nikola Major, Milan Oplanić, Igor Palčić, Josipa Perković, Danijela Poljuha, Bernard Prekalj, Sanja Radeka, Sara Rossi, Barbara Sladonja, Tina Šugar, Centro di ricerche storiche Rovigno- Historical Researches Center of Rovinj, Public Records Office of Pazin, Glas Istre, Gospodarski list, Institute of Agriculture and Tourism, Maslinar

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FOREWORD

Dear readers,

The Institute of Agriculture and Tourism, with its 145 years of continuous organised work, is one of the oldest-running scientific research institutions in the Republic of Croatia. From its foundation until today, the Institute has become a scientific research institution that has significantly contributed to the development of agriculture and tourism, at the regional as well as national level. Acting regionally, but with national and international recognition, through a number of realised domestic and international projects, the Institute nurtures the fundamental role and goals for which it was founded: rural development with emphasis on agriculture and tourism, acquisition and transfer of knowledge, affirmation of scientific research and professional activities in agriculture and tourism, and preservation of biodiversity, as well as natural and traditional values.

Nowadays, in the time of indispensable interdisciplinary, necessary competitiveness and the need to create lasting cooperation and international relations, the Institute of Agriculture and Tourism can rightly be considered one of the leading scientific research institutions in the field of agriculture and tourism in Croatia, as well as one of the few institutions in the world with such research symbiosis. We firmly believe that the Institute will remain a strong and respectable scientific research organisation, primarily in the environment in which it operates, but at the same time will still be recognised and respected nationally and internationally, as a centre of knowledge for rural development, agriculture and sustainable tourism. We also believe that the aspirations of the Institute's employees go further, constantly surpassing the current scientific and research achievements.

Celebrating 145 years of the existence of the Institute of Agriculture and Tourism, by printing this brochure we want to acquaint the general public with the history, activities, employees, and associates of this institution. The brochure presents a brief overview of the historical development of the Institute, and it was printed to achieve two goals – to transfer the tradition of knowledge development, and to promote scientific research to future generations of young scientists. The preparation of the brochure is the result of the team work of the employees of the Institute of Agriculture and Tourism, as well as other external associates and retired employees of the Institute.

I would like to take this opportunity to thank all the employees of the Institute who participated in the preparation of this brochure. In particular, I would like to thank Davorica Dellapicca, Aldo Milotić, Elena Poropat Pustijanac and Franko Žužić, as well as all other external co-operators who, with their various contributions, have significantly enhanced the quality of the brochure.

Director of Institute of Agriculture and Tourism
Dean Ban, PhD.



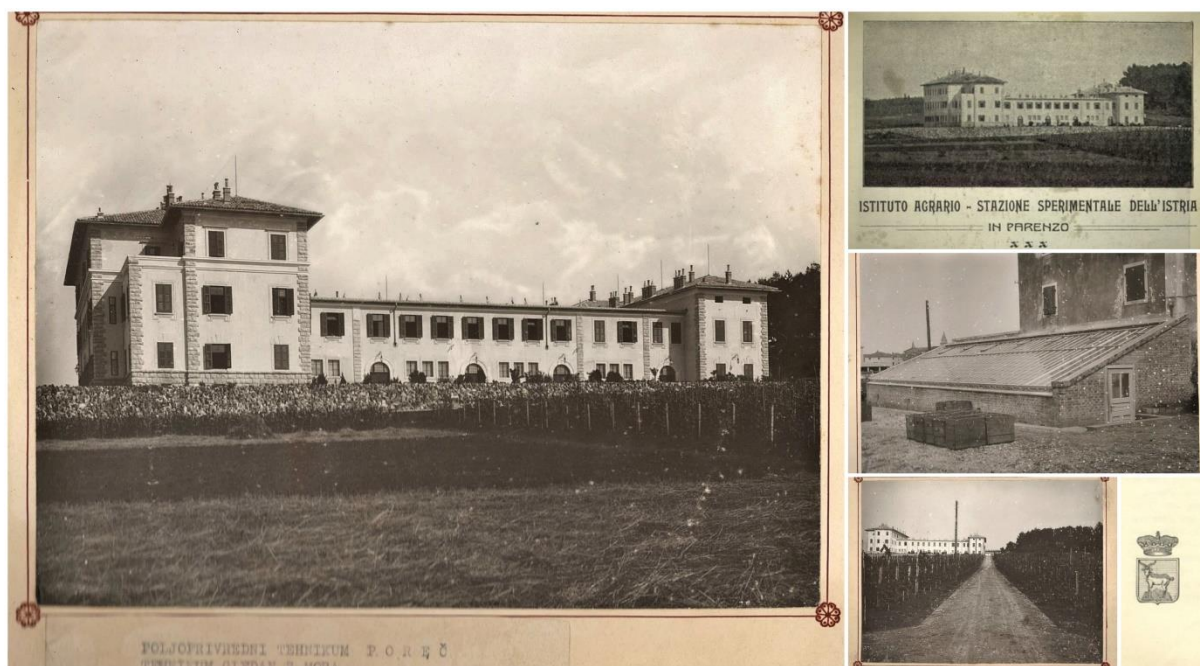
ORIGIN AND DEVELOPMENT OF THE INSTITUTE

Past years have shown the growing backwardness of Istrian agriculture in technical equipment, the application of modern technological knowledge and production efficiency, as well as the emergence of new diseases (downy mildew and powdery mildew) and pests of wines (phylloxera) that have threatened to destroy wine-growing – one of the most important economic activities. In light of all this, it was necessary to establish an institution that would deal with scientific research in the field of agriculture in Istria. In 1873, when the idea of establishing an experimental agricultural station began to be realised, two proposals were considered: the establishment of the Wine and Fruit School, or the Model Station of Wine-growing and Demonstration Cellar. However, the eventual decision was to establish an Experimental Wine Station with the Wine-growing and Fruit-growing Departments. On September 5, 1874, the Istrian Parliament passed a decision on the establishment of the Provincial Wine and Fruit Station based in Poreč, which began operating in April 1875. Its first director was appointed, namely Emil von Mayerbach (1875-1876).

The task of the Station was to improve agriculture in a broader sense, and especially to train farmers to re-establish vineyards using American wild grapes as a rootstock on which the European vine cultivars were grafted, as well as the application of novel technological procedures to control new diseases and pests. Initially, the premises of the Station were located in the former monastery of St. Francis, while the cellar, office and chemical laboratory were temporarily located in two rooms on the ground floor of a house on the Poreč waterfront (towards the sea). After a few years, the Station was moved to Marafor Square, but the cellar remained in the same place until 1906. At first, the Station was allocated 8 ha of land as an experimental estate and nursery, while in 1877 it received an experimental plot in Pazin, due to the possibility of better research in various climatic conditions in Istria. As such, for comparison purposes, the same grape and fruit varieties were planted at both locations.

The appearance of fungal diseases on the vines and the accompanying consequences for agriculture are becoming a scientific challenge for the employees of the Provincial Wine and Fruit Station. Through the scientific work of the employees of the Station, new technological solutions have been introduced into production, as have new varieties of grapevine and American rootstocks resistant to diseases and pests. In terms of the restoration of the vineyards and the cultivation of grapes from American rootstocks, grapegrowers themselves have also been involved through grafting courses. Since 1882, scientific work has been developing and has included other branches of agriculture, which results in the representation of most basic branches of agriculture – wine-growing, fruit-growing, farming, and animal husbandry (Vitolović, 1956).

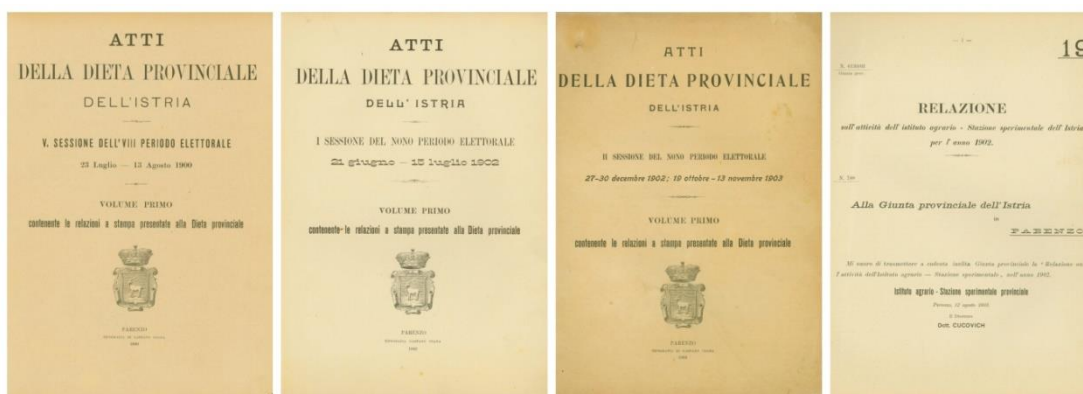
From February 8, 1883, under the leadership of the new and most famous director Carl Hugues, an agricultural school was established at the Station, which from 1887 until 1937 was called the Provincial Agricultural Institute – Experimental Station (*in Italian*: Istituto Agrario provinciale – Stazione Sperimentale). Intensive work on the improvement of agriculture and practical applications in the production of planting material and protection of grapes, as well as grape processing and wine technology, required more modern aids and appropriate work, as well as laboratory space and equipment.



The building of the Provincial Wine and Fruit Station at the beginning of the 20th century
Source: IPTPO Archive

Until the end of the 19th century, besides the first director Emil von Mayerbach, Giuseppe Bauer (1876-1879), Luigi Vascon (1879-1881), Riccardo Callegari (1881-1882) and Carlo Hugues (1882-1898) were appointed as directors. In 1898, the local administration separated the positions of Director of the Institute and Secretary of the Provincial Council for Agriculture, so that Carlo Hugues became secretary, and Giovanni Battista Cucovich (1898-1933) was appointed director of the school, as he had eight years of experience as deputy director at the Winery School in Cagliari. A new period began with him, and the time until the beginning of the First World War was especially significant, when the Station gained a great reputation across the whole of the Austro-Hungarian Empire, and was characterised primarily by the improvement of animal husbandry (Vitolović, 1971).

Giovanni Battista Cucovich reorganised the two-year school into a three-year one, modernised the programme, encouraged new research, and renovated the cellar while also increasing its capacity; in addition, the Experimental Estate was increased to 16 ha and new crops were planted. This modernised school programme was launched in 1900, while the renovation of the cellar was completed in the fall of 1907. In 1903, there was a need to expand the Provincial Agricultural Institute – Experimental Station, and the cellar, at which point new spaces began to be considered. In the summer of 1905, the construction of a new building began and was completed in 1907. Additional expansion of the Experimental Estate took place in the period spanning 1905 to 1906, when the area of the agricultural estate increased to 23 ha (Vitolović, 1956). In 1909, the school was moved to new facilities built on the outskirts of the city and equipped with modern teaching and research aids (classrooms, cabinets, library, laboratories, meteorological station, experimental plantations, wine cellar, student dormitory). The work of the Experimental Estate was based on three interdependent and complementary activities: education, research and improvement of agricultural production. The launch of the magazine *L'Istria Agricola*, the first issue of which was published on November 30, 1907, stands out as a significant success story of the Institute in this period.



Reports on the work of the Station in the period spanning 1900-1903
Source: State Archives in Pazin

The Institute functioned normally until 1914, when the First World War began¹. In July 1914, the war broke out and interrupted the progress of the Provincial Wine and Fruit Station by making its work more difficult. With the entry of Italy into the war in 1915, the situation further deteriorated, which led to the cessation of almost all activities. The school was closed until 1921, while the cellar and the Experimental Estate continued to function in wartime circumstances. Various war actions took place on the estate of the Institute, and so a hangar for seaplanes was built in the area of the estate, and due to the lack of male labour, the remaining jobs in the estate and cellar were taken over by women. Due to the constant threat of bombing, all families of the employees were relocated to the city, and wine produced between 1915 and 1917 was stored in a rented space in the city. At the end of 1917, only necessary work was performed on the estate, which included certain laboratory analyses. All activities began to return to normal after the end of the war, but as the school dormitories were converted into a military hospital between 1919 and 1920, the school was not reopened until 1921.



Equipment of a school building at the beginning of the 20th century
Source: IPTPO Archive

¹ Data regarding the Institute's work during the First World War until 1929 are taken from Giovanni Battista Cucovich's report. This document is accessible at the Public Records Office of Pazin.

From the entry of Istria into the Kingdom of Italy in 1920 until the capitulation of Italy in 1943, agriculture was dominated by a politics that favoured the cultivation of cereals at the expense of the vine, especially during the 1930s and 1940s. The 1920s period was characterised by a troubled financial situation. Thus, in 1925, the Foundation was established, which, in addition to the Provincial Agricultural Institute located in Poreč, also included the Institute for Agricultural Education dott. Pietro de Filippini from Novigrad. This consortium was formed between the Kingdom of Italy, the Province of Istria, the Municipality of Poreč and the Pietro de Filippini Foundation. During this interwar period, in 1929, a major economic crisis began, which caused a drop in sales and a new reduction in the wine prices. Scientific research work was still carried out, but to a much lesser extent than in the previous period.



Agricultural Technical Institute (1937-1943)

Source: IPTPO Archive

In the early 1930s, there was a large reduction in student enrolment, primarily due to the difficult economic situation, and less due to reduced professional interest, so it was proposed to reform subjects in order to attract more students. At that time a change in directors took place, with Eugenio Benedini (1933-1943) becoming the director of the Institute, and under his leadership the development of the Institute was revitalised. In the late 1930s, the equipment of the Institute was at a remarkable level, and so it was often pointed out that the Institute had a chemical laboratory worthy of a university (Orlić, 1985; Vitolović, 1971; Zanini, 1981). During this period, work was carried out to improve cellaring, and during the period spanning 1936-1937, a stable for large cattle was constructed, in addition to the establishment of a small dairy with a cooling system and other facilities and equipment necessary for milk processing (Orbanić, 1985). From 1937, the lower and secondary agricultural schools were components of the Agricultural Technical Institute (Istituto tecnico agrario) for three and four years, respectively. The school was also active during the Second World War, but with a small number of students attending it (Vitolović, 1956).

varieties collections, a fruit trees collection, and a school arboretum. After the Second World War, the material basis for research work was renovated, which included the raising of vineyards, a collection of varieties, plantations with different planting densities, and different methods of cultivation and pruning, etc. At the initiative of Professor Vitolović, the examination of the content of sugars and acids in the must of the autochthonous began, as did the introduction of grape varieties. Research also focuses on the field of fruit-growing and farming in the context of the climatic specifics of the area, plants for technical processing and plants for animal feed production, as well as, to some extent, on the field of animal husbandry (Secondary Agricultural School Report, 1956).



Secondary Agricultural School – Agricultural Technicum, mid-20th century
Source: IPTPO Archives

Due to the expertise of the teaching staff and good results in educational work, in 1954 the Department for the Economy Improvement was established as a part of the school, which since 1955 has been operating under the name Agricultural Station. The Department started working as an institution with independent financing and aimed to unite, direct and harmonise the existing research and service activities of the school with the activities of central departments and to connect research in the field of agriculture and agricultural service with production needs, while also commercialising the work of professional staff. Activities related to research, cooperation with farmers and production improvement have resumed. During the 1950s, Kazimir Štiglić (1954-1956), Juraj Hraka (1956-1957) and Bogdan Šestan (1957-1959) took turns as directors. In the period spanning 1945-1955, several publications in the field of wine-growing and winemaking were published.



Practical work – mid-20th century

Source: IPTPO Archive

At the beginning of the 1960s, the Secondary Agricultural School – Agricultural Technicum was abolished, and in 1961 the Higher Agricultural School was established. The material and human capacities of the Agricultural School and the Agricultural Station were engaged at the Higher Agricultural School, but lecturers from other higher education institutions from ex-Yugoslavia (agricultural faculties from Zagreb, Ljubljana and Sarajevo) were also included. The Higher Agricultural School was focused on the education of agricultural engineers in the fruit-growing, grape-growing and winemaking field. It was the only college in this field in Croatia but, despite the great interest in enrolment, it could not be maintained because of unresolved funding and ceased to operate in 1966. The school also had a special two-year agricultural school for scholarship holders from the Republic of Mali with a tailored curriculum. After the abolition of the Higher Agricultural School, the Secondary Agricultural School was re-established in 1965. During the period spanning 1961-1963, the director of this school was Božidar Kadić (1960-1963), before Josip Dekanić (1963-1969) took his place.

As there were changes in the organisation of the school in the 1960s, the research activity was again merged with the educational activity, and the two were carried out together under the name of the Agricultural Secondary School. In 1971, the Poreč Agricultural Secondary School, together with the school farm, headed by Mihovil Glavić at the time, merged with the School Center for Vocational Education – a working organisation without basic organizations of associated labor (OOUR), but with work units for education. At that time, the acting director Anton Semion (1969-1970) was appointed, and occupied the position until the merger with the School Center for Vocational Education, following which Marijan Vukušić (1968-1983), who was the director of the School Center for Vocational Education, was appointed as director. The Secondary School of Economics and the Secondary School of Tourism moved from their premises in the centre of the town in the Agricultural School building in 1971. In 1974, the name of the institution was changed to the Working Organization (RO) School Center for Vocational Education, and two OOURs (OOUR "Vocational Schools" and OOUR School Agricultural Property) were formed, whose heads were Ante Semion (OOUR Vocational Schools) and Mihovil Glavić (OOUR School Agricultural Property). At that time, scientific activity was reduced in favour of education. Following the general reorganisation of the educational system in 1978, the RO School Center was registered as the Center for Oriented Education in Poreč. Within the aforementioned institution, agricultural education in this period was organised as a separate organisational unit with a four-year programme (agricultural technician).

Although from the 1960s of the 20th century some other economic activities began to develop, agriculture retained an important status in the economic structure of Istria, but its lag in technical and technological development was evident. The need to establish an institution to research and transfer knowledge into practice had re-emerged. Thus, in 1978, a meeting was held on the premises of the Agricultural School in Poreč, convened by Prof. Dr Uroš Peruško, who was the Minister of Agriculture of the Socialist Republic of Croatia. After a comprehensive discussion, representatives of Istrian municipalities, agricultural companies, socio-political organisations, the Chamber of Commerce and the Ministry concluded that the successful development of agriculture is questionable without an

institution that would deal with scientific research and knowledge transfer into practice. It was decided that the location of the institution would be in Poreč, because there were already material requirements (land, facilities, the staff working at the school) as well as tradition. The Town of Poreč has accepted part of the obligations in terms of implementing the conclusions (personnel, material and organisational support). The initiative began to be realised in 1983 with the appointment of mr. sc. Aldo Milotić (1983-1996) to the position of Director of the Center for Vocational Education, with the obligation to create a legal and organisational precondition for establishing a scientific unit according to the laws in force at the time and for rehabilitating and upgrading existing facilities for the unit and school. In the same year, a request was submitted for the registration of a scientific research unit within the Center for Vocational Education, and a reorganisation procedure was carried out, providing legal frameworks for a new activity within the Center. Offices were provided, and in agreement with the State Hydrometeorological Institute in 1984, a facility for a meteorological station was equipped.

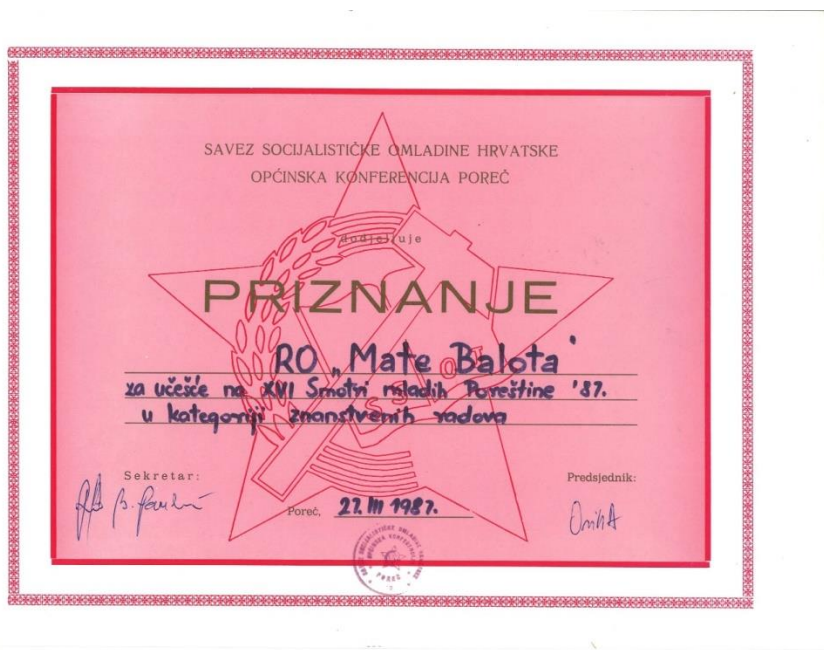
The scientific unit in the Field of Agriculture and Food Industry within the Center for Vocational Education was registered by the ministry in 1984. The head of the Unit, within the CUO, was mr. sc. Đordano Peršurić. A year later, "Mate Balota", R.O. for secondary vocational education and agricultural sciences with two OOURs: OOUR for secondary vocational education "Center for Vocational Education" – CUO Poreč and OOUR for agricultural sciences "Agricultural Science Center" – PZC Poreč. The heads of OOUR CUO Porec were MSc Jusuf Šehanović (1985-1986) and Nedjeljko Nerlović (1986-1989), while the head of OOUR PZC Poreč was Dr Đordano Peršurić.



4th b grade graduates OOUR for secondary vocational education "Center for Vocational Education" – CUO Porec 1987 generation

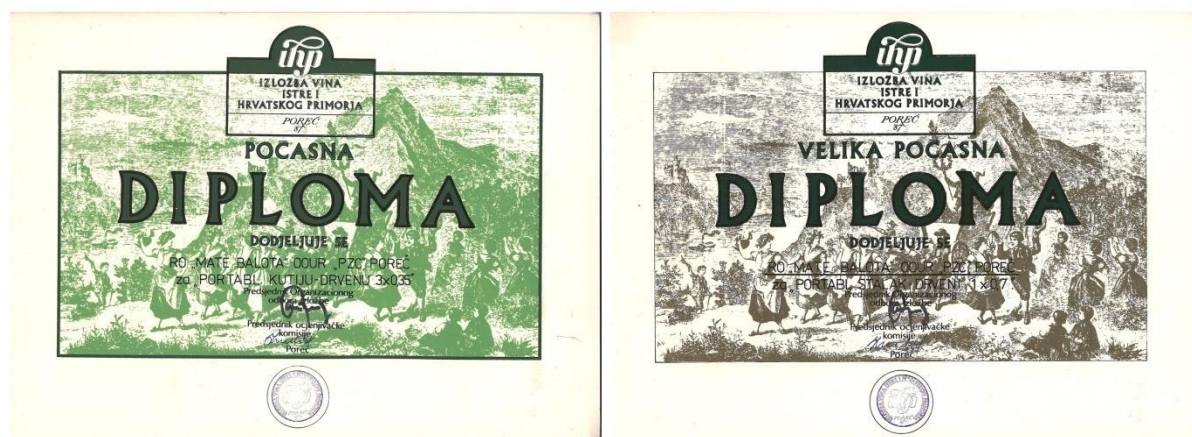
Source: Danira Maloča

With the establishment of the Agricultural Science Center, modern scientific research in agriculture at that institution began, which had been sporadic since the early 1960s. Support in the process of establishing a scientific department, including staff and material resources, was provided by a large number of scientists, the Academy of Sciences and Arts, and the latter's president, academician Prof. DrIvan Supek, followed by the Science Committee of the Republic of Croatia, the Chamber of Commerce of Pula, the Municipality of Poreč, and agricultural and catering and tourism companies in Istria. Besides the research work approved by the Ministry of Science, intensive cooperation has been developed with the Ministry of Agriculture and Istrian municipalities regarding agricultural improvement programmes. Thus, the agricultural service and selection service in animal husbandry for the area of Istria were established, experiments were performed with the aim of recognising and registering new varieties of wheat, barley, oats and potatoes within the authorised Republic department, and the municipal service for agricultural land was established. Wheat and other cereals were grown, while a livestock improvement programme was implemented through the procurement and supervision of quality breeds.



Recognition for participation in the Poreč Youth Festival in 1987 and honorary diplomas from the wine exhibition of Istra and Croatian seaside from 1986

Source: IPTPO Archive



In 1986, the Exhibition of Wines of Istra and the Croatian seaside was organised. New activities, newly-hired researchers and experts have opened wider opportunities for the education of school students. Lack of space has become a limiting factor for both professional and scientific work, as well as the school. The Agricultural School building, built in 1909, became not only insufficient for the Center for Vocational Education with three schools and the Agricultural Science Center, but was also dilapidated and ruinous. The only long-term solution was quality rehabilitation and upgrading of the existing space, which was implemented. During the renovation of the School building and the barn, which began in September 1988, the work on the School and the Agricultural Science Center took place at several locations in the city that were temporarily ceded to catering and tourism companies. The rehabilitation programme included two school buildings for educational purposes (3,800 m²), and a former barn for the needs of the Agricultural Science Center (1,000 m²), but a residential building with six apartments was also built for the needs of teaching staff. Funding was provided from several sources, including the Republic of Croatia (USIZ Vocational Education, Science Committee), the Municipality of Poreč and the Cooperative Association of the Republic of Croatia (through loans). In addition to the rehabilitation of buildings, part of the new classroom and office

equipment was procured, and after 90 years the Institution for Education and Improvement of Agriculture again received the material and personnel conditions to enter a new development cycle.



Decision on the constitution of
OOUR Agricultural Science Center
Source: IPTPO Archives

In 1989, OOUR for agricultural sciences, the Agricultural Science Center separated from the RO "Mate Balota" and continued to operate as a separate working organisation, under its current name, the Institute of Agriculture and Tourism. The beginning of the Institute's operation as an independent organisation was characterised by a change in the organisational structure, which included the establishment of the Department of Agriculture, the Department of Tourism, the Department of Experimental Farm (rolling stock, cellar, agricultural areas and meteorological station) and the Administration.





Employees and equipment of Institute in the late 1990s and early 2000s
Source: IPTPO Archives

With the entry into force of the Scientific Research Act (Official Gazette No. 96/93), the Institute became a scientific research organisation, the founding rights of which were acquired by the Republic of Croatia; from then on, the organisation operated as a public institute owned by the Republic of Croatia. Accordingly, on March 18, 1996, the organisational structure of the Institute was changed. Five organisational units were established: three departments (the Department of Agriculture and Nutrition, the Department of Economics and Development in Agriculture and the Department of Tourism), the Experimental Agricultural Estate and the Administration; each of these units consisted of several units. Experimental facilities and laboratories also operated within the Department of Agriculture and Food. The management structure of the Institute consisted of the Governing Board, the Scientific Council, and the Director, and on April 15, 2005, in addition to the aforementioned bodies, the Collegium was introduced. The last organisational change took place on December 20, 2008, when the structure of the organisation included three departments as holders of scientific research and professional activities with the necessary infrastructural support (laboratories, experimental farm with plantations and wine cellar) and technology development centre. The organisational structure includes administrative services that support all of the work and activities of the Institute by performing legal, general, accounting, financial and other tasks. During the period spanning 1996-2012, the director of the Institute had been Dr Đordano Persuric (1996-2012), after whom came Dr Dean Ban (from 2012).

During the 145-year long history of the Institute, its mission and vision have been focused on research, education and transfer of knowledge into practice. Due to different political and economic changes in the immediate and wider environment, the three above-mentioned directions were not always equally represented. Today, scientific research is the basic task of the Institute, just as it was throughout the history of the Institute when it was a basis for education and transfer of knowledge into practice. The research component stood out significantly under the leadership of Carl Hugues and Giovanni Battista Cucovich, after the Second World War until the reorganisation of the Agricultural School, at the beginning of the Higher Agricultural School, after the establishment of the OOUR Agricultural Science Center, and especially after the establishment of the Institute of Agriculture and Tourism.

DEPARTMENT OF AGRICULTURE AND NUTRITION

The focus of research in the field of agriculture has changed over several periods. More recently, during the period spanning 1989-1996, research in this field centred mainly on grapevines, durum wheat, tomatoes and potatoes. In the following period, until 2013, the focus of research within the Department was on the valorisation of genetic and economic resources of grapevines, valorisation of autochthonous olive varieties in Istria, and the optimisation of vegetable cultivation technologies and varieties, including ecologically-viable cultivation technologies in karst areas. From 2013 until today, scientific research within the Department has centred on the characterisation, valorisation and preservation of the autochthonous gene pool of agricultural plants, their products, and the development of new varieties, as well as the optimisation of traditional, and the development of novel, technologies in agriculture. This research also focused on sustainable agricultural production and ecosystem management in the karst area, as well as environmental protection. In parallel with scientific research, professional activities as support to farmers, producers and other stakeholders in the sectors of agriculture and the food industry were performed continuously.



Employees of the Department of Agriculture and Nutrition – September 2020
Source IPTPO

Today, the Department of Agriculture and Nutrition conducts permanent scientific research and professional work in the field of biotechnical sciences with the main goal of creating knowledge that will contribute to the preservation of biodiversity, natural and traditional values and the development of agriculture, economy and rural areas. This is achieved primarily through the implementation of applied research in competitive international and national projects, as well as projects in cooperation with the economy, with the aim of solving current problems and needs in agri-food production in regional and national frameworks, but with international significance. Most of the research in the Department takes place within the scientific fields of agriculture, food technology, biotechnology and environmental protection, mostly through topics from viticulture and enology, to olive growing and olive oil production, and vegetable production.



Department of Agriculture and Nutrition
Own sources

At present, six laboratories are active within the Department: Wine Laboratory, Food Technology and Biotechnology Laboratory, Genetic Laboratory, Laboratory for Soil, Plant and Water (former Pedology Laboratory), and the newly-established Plant Phenotyping Laboratory and Laboratory for Plant Protection. All laboratories are modernly equipped and serve as an important infrastructural support for the implementation of scientific research projects, but they also participate intensively in professional activities on the market through various projects and services. Among other capacities for conducting research and professional work, it is worth mentioning the modernly-equipped wine cellar and oil mill on a semi-industrial scale. For the same purpose, numerous experimental agricultural sites, such as vineyards, olive and fig orchards, arable fields, greenhouses, and other agricultural fields and equipment are used, which are administratively a part of the Institute's Experimental Agricultural Estate, which is outside the Department of Agriculture and Nutrition, but serves its employees as a test site.

In the period to come, the Department plans to continue research and professional activities with the main goal of improving the sustainability of agri-food production and the quality of its products, with an even greater emphasis on participating in solving local and national problems, needs and priorities, but in accordance with contemporary global scientific policies in the field, with the aim of positioning the Department and the Institute more strongly within the European and global research space. Among other things, the intention is for this to be achieved through research on topics related to the adaptation of agricultural production systems to climate change (sub-topics: innovative technologies and processes for agricultural production of high quality and added value, carbon sequestration, plant protection, secondary plant metabolites in abiotic and biotic stress conditions), environment and biodiversity (sub-topics: ecosystem services, genetic and genomic biodiversity, plant genetic resources, plant breeding) and food quality (sub-topics: technological aspects, sensory quality, biological activity, nutritional value, health, authenticity).

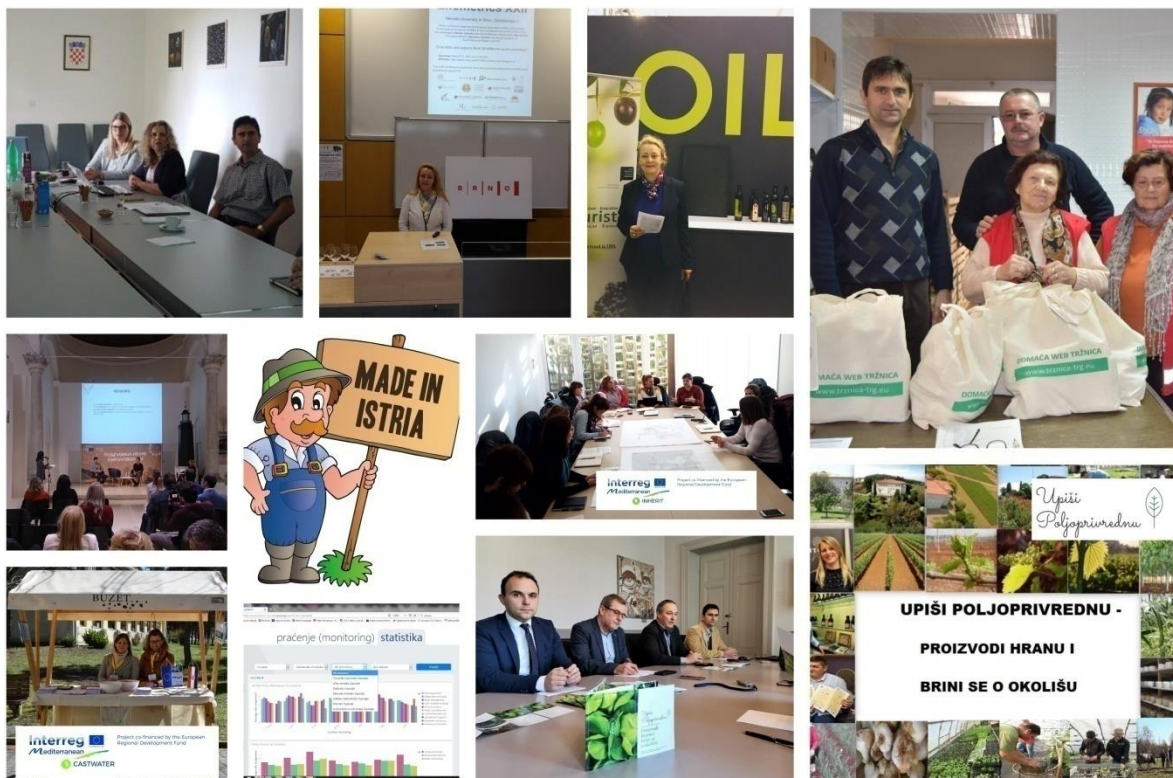
DEPARTMENT OF ECONOMICS AND AGRICULTURAL DEVELOPMENT

Various scientific research studies and professional activities are conducted in the Department of Economics and Development of Agriculture. The scientific research of the Department includes research concerning the economic and socio-economic characteristics of family farms, and organisation and marketing in agriculture, while the professional activities of the researchers relate to the analysis of business entities, investment and development studies in agriculture and rural tourism and education through professional lectures and participation in teaching at collaborative higher education institutions.



Employees of the Institute for Economics and Development of Agriculture, September 2020
Source: IPTPO

Agroeconomic research aims to address the economic, organisational and market aspects of agricultural operations, whose goals are to support agricultural policy based on science, professional participation in national and international institutions, specialised groups and research networks, providing background and documentation for consultation, information and public relations, and summarising and processing all types of collected agricultural data.



Department of Economics and Agricultural Development
Source: IPTPO

As rural areas become more and more demanded and appreciated places for rest and holidays, research in the segment of providing on farms tourist services is rather a trend. Diversification of agricultural holdings in the field of direct sales, tourism, processing and provision of services enables better use of their resources and increases income. The focus of the scientific research conducted in the Department also includes tourism of special interest, primarily olive and wine tourism, as well as research on the protection of rural areas in the context of tourism activities.

The activities of the Department are also focused on the application of scientific and professional knowledge through cooperation with economic entities and regional public authorities. For their needs, several economic development programmes have been developed in the Department so far, and they have been provided with consulting support in the use of funds from the Rural Development Program. The Interreg project "Organization of a system for direct sales of agricultural products using Internet technology" resulted in the launch of the Internet application "Domestic Web Market", as well as in the formation of the Association of Istrian Farmers, which promotes and encourages direct sales of locally-produced agricultural products. In cooperation with the City of Poreč and the County of Istria, the project "Enroll in Agriculture School" is being implemented, with the aim being to encourage greater interest of children and youth in agricultural education, and their later professional farming practices. Taking into account the favourable agroecological conditions, the analysis of the market for cultivation and processing of medicinal and aromatic (spice) plants in the County of Istria was performed, as a basis for their future more intensive cultivation. In order to address the needs of a number of local public authorities, programmes for the management of state agricultural land are being prepared, as well as studies of the justification for granting concessions on maritime property.

In the forthcoming period, the Department of Economics and Agricultural Development plans to continue research and professional activities with the main goal of improving sustainability in agriculture, covering the border area between economy and agronomy, taking into account that the

success of each economy is greatly influenced by external and internal factors, i.e. by macroeconomic developments in the environment and organisation and marketing at the micro level. The intention is for this to be achieved through research within global trends in the development of the agricultural sector, diversification of activities on farms, human resources and management of family farms, adaptation of agricultural production systems to climate change, and similar areas.

DEPARTMENT OF TOURISM

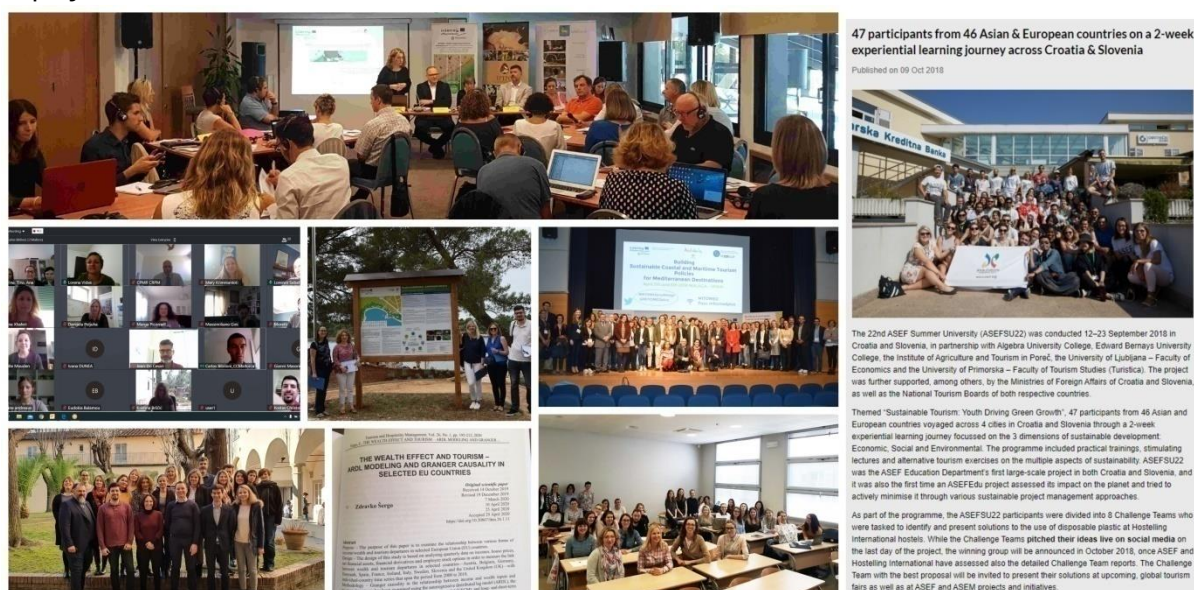
Due to the significant development of tourism in Istria, in the late 1980s the idea of merging two important complementary research areas, namely agriculture and tourism, emerged, as well as the need for scientific research as a basis for further development of these strategic economic activities. From the founding of the Institute of Agriculture and Tourism until 2015, the mission of the Department of Tourism was scientific research in the field of tourism, especially rural tourism and special interest tourism with emphasis on the application of scientific research in practice. Until then, several scientific topics had been subject to research within the Department, analysed through a total of seven scientific projects within four scientific research cycles. The results of this scientific research have been presented to the scientific and professional public in more than 400 scientific and professional papers, including more than 150 papers at conferences, approximately 70 papers in scientific journals and around 20 chapters in a book. In the early 2010s, scientific work was increasingly focused on research and knowledge transfer in the field of sustainable tourism development.



Employees of the Department of Tourism, September 2020

Source: IPTPO


Since 2014, research related to sustainable tourism development has been co-financed by the European funds of the MED and interreg MED programmes, and as of 2020 this topic has been researched within a total of five projects co-financed by the EU. In the last five years, the Department of Tourism has been conducting research within the above-mentioned projects, financed by, and implemented in cooperation with, the public and private sectors, mainly in the Istrian County, but also beyond. Researchers from the Department are involved in the implementation of international projects financed by the Interreg Mediterranean programme, which have been implemented since 2016 in three-year and four-year periods. The results of the research conducted within the Department have been publicly presented on several occasions through various thematic workshops, conferences and events. Specifically, the goal of the Department of Tourism is to encourage research in the field of sustainable tourism development in cooperation with local, regional and national stakeholders, as well as through international cooperation with scientific and professional institutions in Europe and the world. Observing the activities of the Department within the triangle – research, innovation and education – the goal of the Department is to strive for the development of new ideas and knowledge and the transfer of knowledge to the economy. Although the Department has a relatively small number of employees, among whom two are scientists, one is an assistant and one is an expert associate, researchers from other Departments of the Institute are also involved in the implementation of projects.



Department of Tourism

Source: IPTPO

Research activities in the field of social sciences have been present as regular activities within research and professional projects of the Institute of Agriculture and Tourism since the founding of the modern Institute under this name in 1989, which was recognised by the later takeover of founding rights by the Ministry authorised for science when obtaining the status of a public scientific institute in 1996. However, it was not until 2016 that an initiative was launched to officially accredit the Institute's activities in the field of social sciences. In 2017, the first Strategic Program of Scientific Research at the Institute of Agriculture and Tourism in the field of social sciences was adopted by state-level governing bodies, on the basis of which a permit for conducting scientific research in the field of social sciences was obtained.



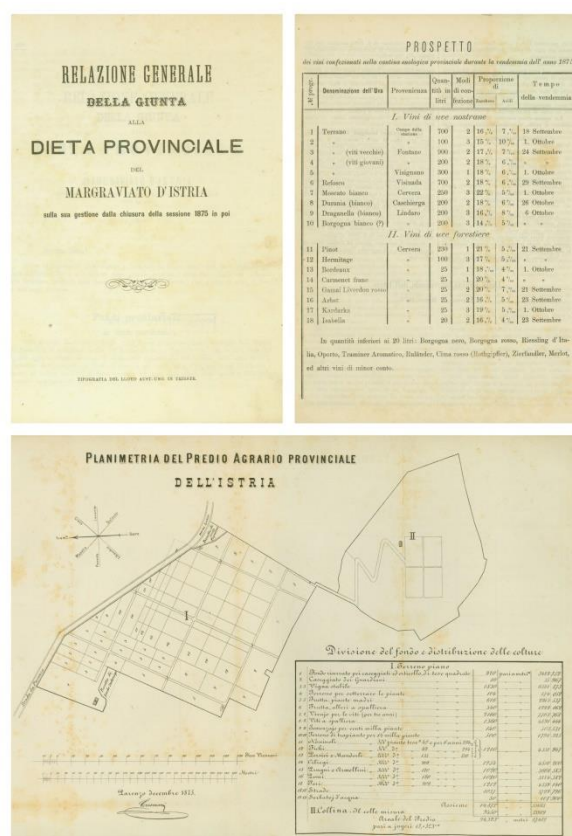
After 2015, the Institute also became a member of NECSTouR (Network of European Regions for a Sustainable and Competitive Tourism) and the Association of European Regions, with the goal of promoting sustainable tourism development and its competitiveness.

In the realisation of future scientific research projects in the social science field, creativity and openness, as well as intellectual freedom, will be supported. The advantage of the Department is in connecting researchers from different regions and fields (within the Institute) by creating quality research groups and formulating new ideas through networking in the fields of agriculture and tourism. The main strategic topics of further scientific research work of the Department are defined by the above-mentioned Strategic Program, namely sustainable development of tourism and special interest tourism.

EXPERIMENTAL AGRICULTURAL ESTATE

Since the very foundation of the Provincial Wine and Fruit Station, an agricultural estate has been present, including various plantations for the purpose of conducting experiments and educating students. The original agricultural estate was established in an area called Predio at the foot of the Sv. Marko hill, and as an experimental estate, or Exemplary Estate, has been known since 1884 (Italian: Il Podere modello), because at that time it contained all the necessary modern equipment and was intended to represent an example to the farmers. In 1875, the first vineyards and orchards were planted, as well as a fruit and vine nursery of selected varieties across an area of 8.7 ha (Orlić, 1985; Poropat Pustijanac, 2013; Vitolović, 1971), while later the area was increased to 9.5 ha (Orbanić, 1985). Baron Giampaolo Polesini was the patron of the Provincial Wine and Fruit Station, and so seedlings of indigenous and introduced grape varieties were obtained from his experimental vineyard (Dalla Giunta provinciale dell'Istria, 1876).

When the experimental station in Pazin was added to the main Station in 1877, the same grapevine varieties and fruit trees were planted at both locations. At that time, grapevine seedlings were produced in nurseries for the local needs of expanding viticulture, and in that period, 50,000 seedlings per year were distributed to local vinegrowers. This practice was discontinued in 1882 due to the appearance of phylloxera disease, and so in the period spanning 1883-1898, research was carried out on new rootstocks with the aim of suppressing the aforementioned disease.



Agricultural estate development plan from 1875
Source: State Archives in Pazin

Since 1882, scientific work on the farm has been developing and other branches have been added, thus resulting in the representation of all basic branches of agriculture: viticulture, pomiculture, farming, and animal husbandry (Vitolović, 1956). The cultivation and maintenance of plantations and the keeping of livestock encouraged the construction of additional facilities on the farm: storage for agricultural machinery and tools, stables, greenhouses, water tanks and water towers. In 1884, the farm was divided into two units; one was intended for conducting experiments marked with inscriptions on dedicated tables, while in the other unit different crops were grown for

sale. The plan was for the entire area of the farm situated in Poreč to be used for experiments. At the time, 3.5 ha of the estate area were predestined as an experimental area for conducting experiments, half of which was used for planting grapevines, while the rest was used for other crops. The vineyard at the time contained 27 grape varieties. During this period, experiments were carried out on a smaller scale, on approximately 200 smaller plots, mainly related to pruning, fertilisation and production technology. Seedlings of pears, apples, cherries, plums, peaches, apricots and nectarines were produced in the nurseries. An irrigation system was also established, which used rainwater that flowed from the nearby hill of Sv. Marko.



Agricultural estate from the beginning of the 20th century
Source: IPTPO Archive

At the beginning of the 20th century, during the reign of director Giovanni Battista Cucovich, the area of the experimental farm increased and new crops were planted, but during the First World War the activities of the farm were reduced to the minimum. From the annexation of Istria to Italy until the end of the Second World War, the emphasis was on the production of field crops, primarily wheat, while viticulture and olive growing were marginalised. At the end of the 1930s, the activities of the farm were expanded to dairy farming, and so a stable for cattle and a smaller dairy farm with a cooling system and other premises and equipment necessary for milk processing were built.



Agricultural farm 1954
Source: Center for Historical Research of Rovinj, fig077

After the end of the Second World War, the farm, in addition to a dairy barn, included an apiary, vineyards with 177 grape varieties, a varietal pear orchard, a grapevine mother plantation of approximately 4 ha, an arboretum, and various kinds of agricultural machinery. These resources were primarily for the function of educating students. The development of the farm continued after the Second World War, and so following 1952 the Institute was an institution with independent funding. The school and the farm had the same administration, thus meaning that the school's teaching council had an influence on directing the production for didactic purposes, as well as performing exercises and student practice (Secondary Agricultural School Report, 1956). The work was organised according to the group system in such a way that the agricultural areas were divided into six parts. The structure of production was as follows: 1) crop production (wheat, barley, oats, corn, silage corn, fodder beet, hay, flax, husk, grapes, fruits, hazelnuts, cucumbers, tomatoes, peppers, lettuce, carrots, parsley, onions, cabbage, pumpkins, potatoes, peas, fodder kale, spinach, etc.), 2) livestock production (cows and bulls, steers, sows and boars, piglets and bees) and 3) processing production (dry and sweet wines and brandy).



Property to support students – mid-20th century
Source: IPTPO Archives

At the end of 1950, research was carried out on the farm which resulted in the publication of papers in the Agronomy Gazette. In the early 1970s, the agricultural property, referred to as the School Agricultural Property, was annexed to the School Center for Vocational Education, and in the

mid-1970s became a separate organisational unit within the School Center for Vocational Education working organisation.

Since 1989 the experimental agricultural farm has been an administrative unit of the Institute of Agriculture and Tourism. Today, it represents a valuable resource that serves as a testing ground for scientists of the Institute and represents an infrastructural support on which scientific research in the field of viticulture, winemaking, and olive and vegetable growing is based. In addition, it is a place for meetings and exchange of ideas between experts and scientists, and as such represents a great value that enriches the working conditions of the Institute. The experimental agricultural farm also serves to help students master the practical skills of agricultural specialties.



Employees of the Experimental Agricultural Estate – September 2020
Source: IPTPO

The Experimental Agricultural Estate of the Institute includes plantations of grapevines, olives and figs, arable land and free green areas. Currently, the Experimental Agricultural Estate has a total area of 32.21 ha, of which perennial plantations make up 4.29 ha (vineyards 2.82 ha, olive groves 1.21 ha, fig trees 0.26 ha), arable land 12.61 ha, pastures 0.14 ha, greenhouses 0.12 ha, forest land 2.89 ha, and other areas 11.69 ha (yards, roads, parking lots, etc.).

In 2017, two modern greenhouses were built on the Experimental Agricultural Estate of the Institute of Agriculture and Tourism to conduct experiments in controlled conditions. The multifunctional greenhouse of 250 m², with an automated system for ventilation and heating, is intended for conducting research as part of the Institute's projects. The smaller greenhouse has an area of 70 m² and is intended for conducting simpler experiments.



Experimental Agricultural Estate to support modern agricultural research
Source: IPTPO

ADMINISTRATION

The organisational structure is completed by the Administration unit of the Institute, which supports all of the work and activities of the Institute regarding legal, general, accounting, financial and other issues. This organisational unit is divided into two sub-organisational units: the Department of General, Legal and Personnel Affairs and the Department of Accounting and Financial Affairs. Both departments provide solid organisational assistance to all employees while they work, as well as support for the Institute's activities. The Administration unit also takes care of the recognition of the Institute on the market. The Institute's Administration unit is currently made up of 10 employees.

A



Employees of the Administration, September 2020
Source: IPTPO

The Technology Development Center (TDC), the Computer Center and the library are also part of the Administration unit. The Technology Development Center was established in 2008 and is an organisational unit that consolidates all potential knowledge and technology transfers to the economy, defines a marketing approach to target groups, provides advisory services and organizes control over work on various EU projects. This Center unites the business functions of all organisational units with project organisations of the Institute. Currently, the Technological Development Center manages training programmes related to safe handling and proper application of pesticides, and in the near future the plan is to expand the training programme to other verified training programmes in agriculture. These programmes will be a backbone for the development of a lifelong adult education system. The Technology Development Center is now in the process of organising an office for the administrative management of all projects funded by trans-national EU funds, the European Regional Development Fund (ERDF) and the European Rural Development Fund (EAFRD). The Computer Center of the Institute of Agriculture and Tourism was established and is developing with the aim of providing support to business processes and scientific research at the Institute. The basic activity of the Center is the development of information and communication infrastructure, which includes planning, installation and maintenance of computer, network and software equipment and other resources for the improvement of business activities. The library of the Institute contains various

materials from 1875 to the present day. Today, the library has over 12,000 publications in Croatian, Italian, German, English and other languages.

COLLECTION PLANTATIONS OF THE INSTITUTE

As part of the Experimental Agricultural Estate, the Institute maintains collection plantations of grapevines, autochthonous olives varieties, figs, asparagus, and garlic, shallots, potato, onions and kale.

GRAPEVINE COLLECTION PLANTATION

The Experimental Agricultural Farm of the Institute includes several experimental vineyards (total area 2.82 ha) on which scientific and professional research in the field of viticulture is conducted, while grapes from these plantations are also used in enology research. Istrian autochthonous, as well as various introduced grape varieties, are planted in the experimental vineyards, and the vineyards are divided into different thematic units.





Collection plantation of autochthonous varieties
Source: IPTPO

The collection vineyard of autochthonous grape varieties, planted in the period spanning 2005-2020, has an area of 0.87 ha. This part of the collection is also used for the purposes of conducting scientific and technological research in the fields of viticulture and enology. The collection includes the following Istrian autochthonous grape varieties: Istrian Malvasia, Teran, Muscat rose and Muscat Momjanski, with the latter two included in the national list of grape varieties at the initiative of the Institute, Borgonja, Hrvatica, Duranija, Surina (Plavina istarska), Vela pergola, Garganja, Dolcin, Brajdica, and others. Planting material was obtained by propagating old vines of Istrian autochthonous varieties from vineyards older than 40 years. The plantation is also a gene bank, which is especially valuable in terms of particular almost extinct Istrian autochthonous grape varieties saved within the plantation.



Prominent autochthonous grapevine varieties
Source: IPTPO

The collection of introduced grape varieties was planted in 2006 on an area of 0.62 ha. The collection includes the following varieties: Chardonnay, Sauvignon Blanc, Muscat Blanc, Moscato Giallo, Manzonni Blanc, Grenache Blanc, Viognier, Semillon, Trebbiano Toscano, Chasselas, Malvasia del Lazio, Pinot Blanc, Pinot Gris, Pinot Noir, Cabernet Sauvignon, Syrah, Cabernet Franc, Refosco dal Pedunculo Rosso, Grenache Noir, Gamay and Barbera. The goal behind this collection is to research the characteristics of these varieties in Istrian ecological conditions, as well as the conductance of various technological experiments in viticulture and enology.

The collection vineyard of Istrian Malvasia was planted in 2012 on 0.49 ha. One part of the plantation consists of Istrian Malvasia vines (clone VCR4) which are grafted onto four rootstocks (SO4, K5BB, 110R and 420A), while the other part is the collection of seven different Istrian Malvasia clones (VCR4, VCR113, VCR114, VCR115, VCR22, VCR393 and FVG121). The purpose of this plantation is to investigate the characteristics of Istrian Malvasia grafted onto different rootstocks and to compare the economic characteristics of different clones of this variety.

OLIVE COLLECTION PLANTATIONS

The olive grove located on the north side of the Institute of Agriculture and Tourism was formed in the period spanning 1992-1994, and it was expanded in 2013 and 2019 with domestic varieties Žižolera and Črna. The plantation is dominated by Italian varieties (Leccino, Pendolino, Leccio del Corno, Ascolana Tenera, Itrana, Moraiolo and Frantoio); French varieties are represented by Picholine, while domestic varieties included are Buža, Bova, Puntoža, Istarska Bjelica, Rosinjola, Žižolera and Črna. Olives on this plantation take up 0.39 ha, with 127 trees in total.

The other plantation of domestic olive varieties, located on a slope on the south side of the Institute, was planted in 2008 on an area of 0.48 ha. This olive grove is the first collection plantation of autochthonous varieties in Istria. It includes 11 domestic varieties (Istarska Bjelica, Belica, Bjankera, Buža, Puntoža, Črna, Karbonaca, Moražola, Rosinjola, Črnica and an unnamed variety) and the Italian variety Leccino. Before planting, domestic varieties from the orchard were identified, described and characterised in the framework of the scientific projects *Valorization of autochthonous olive varieties in Istria* and *Characterization of autochthonous olive varieties in Istria*, while monovarietal virgin olive oils were chemically and sensorially characterised during the project *Unravelling the varietal typicality of wines and olive oils of Croatian domestic varieties*. The continuation of morphological description using contemporary digital technologies is in progress, and the plan is to continue research on the chemical and organoleptic characteristics of monovarietal virgin olive oils.

In addition to preserving genetic material, the plantations are used for research which results in publications in scientific journals as well as presentation of the results at national and international meetings.





Collectible olive grove
Source: IPTPO

FIG COLLECTION PLANTATION

The fig plantation was formed between 1988 and 1992 as the first fig plantation in Istria on an area of 0.26 ha. It includes 78 fig trees.

The plantation comprises 13 domestic fig varieties (Šaraguja, Petrovača Crna, Crnica, Vodenjača, Termenjača, Grčka Crna, Rezavica, Petrovača Bijela, Bružetka Crna, Zamorčica, Bjelica, Zimica, Fico della Madonna) and 10 new varieties (genotypes) which are yet to be assigned and named.

The plantation was founded with the aim of achieving progress in the development of fig production in Istria. It contains valuable genetic material which is also used for scientific research, and the results which are obtained are presented at national and international conferences and in scientific publications.

Molecular identification of all the fig varieties included in the plantation was carried out using the funds of the *National Program for the Preservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture in the Republic of Croatia*. Morphological description, chemical

identification and descriptive sensory analysis of the fruits of the autochthonous fig varieties are currently in progress.



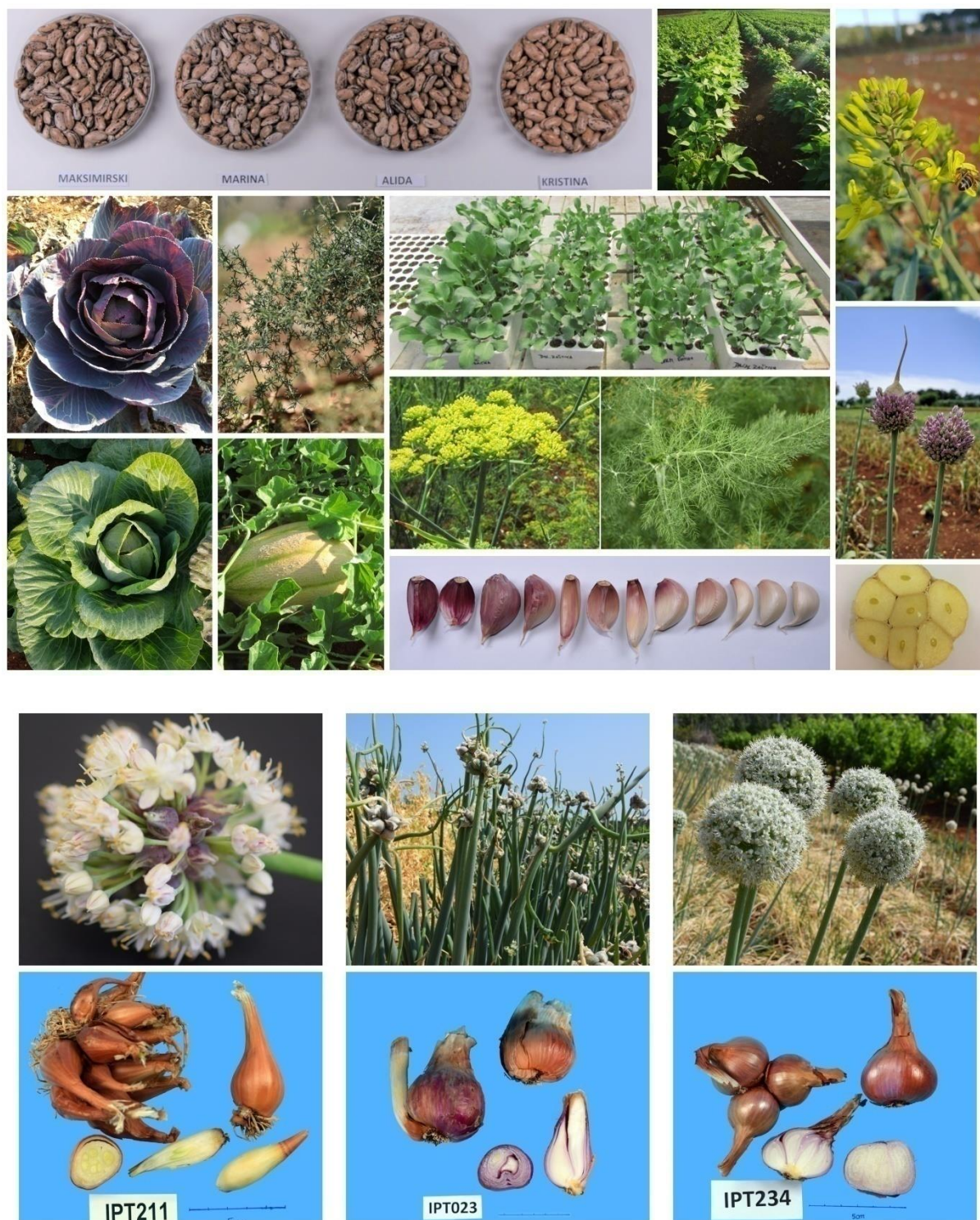
Collection plantation of figs
Source: IPTPO

COLLECTION OF VEGETABLES AND AROMATIC PLANTS

Since 2007 the Institute of Agriculture and Tourism has been cultivating and constantly supplementing the "*ex-situ*" collection of various species of vegetables and aromatic plants, which currently includes 234 accessions.

A part of the collection contains a perennial asparagus plantation, while another part includes the species which are propagated exclusively vegetatively and replanted every year. Most of the maintained plant material comprises local (traditional) varieties and ecotypes of vegetables from all over Croatia, which represent a pool of genetic variability which can serve as a basis for breeding programmes. The purpose of the "*ex-situ*" collection is to preserve biodiversity and assess the economic characteristics of local varieties and ecotypes. Accessions of vegetables and aromatic plants are described at the phenotypic and genotypic levels and analysed in terms of their contents of

bioactive compounds and nutritional specificities, with a special emphasis on rare and old ecotypes specific to the geographical area.





Vegetables growing at the Institute
Source: IPTPO

A portion of the collection of vegetables which are propagated vegetatively currently contains 156 ecotypes of garlic (*Allium sativum* L.) from all parts of Croatia, from Europe and other parts of the world, in addition to 36 accessions of shallot belonging to three botanical species (*A. cepa* *Aggregatum*, *A. × proliferum* (Moench) Schard.), of which one (*A. × cornutum Clementi ex Vis.*) is specific to the Croatian coast.

In addition, kale accessions (52) collected along the Adriatic coast and islands, as well as local cabbage varieties (Brgujski kapuz and Žminjski kupus), are intensively studied.

The collection also includes Istrian potatoes and numerous accessions of beans, chickpeas, peas, lettuce, melons, and watermelons, etc.

Regarding aromatic and medicinal plants, the Institute maintains an "ex-situ" permanent plantation of asparagus (*Asparagus acutifolius* L.) which includes 96 accessions from various parts of Istria and Dalmatia. Since 2018, wild accessions of common fennel (*Foeniculum vulgare* Mill.) have also been collected. The collection is expanded on a regular basis and used for research activities within the framework of numerous projects implemented at the Institute.

WINE CELLAR

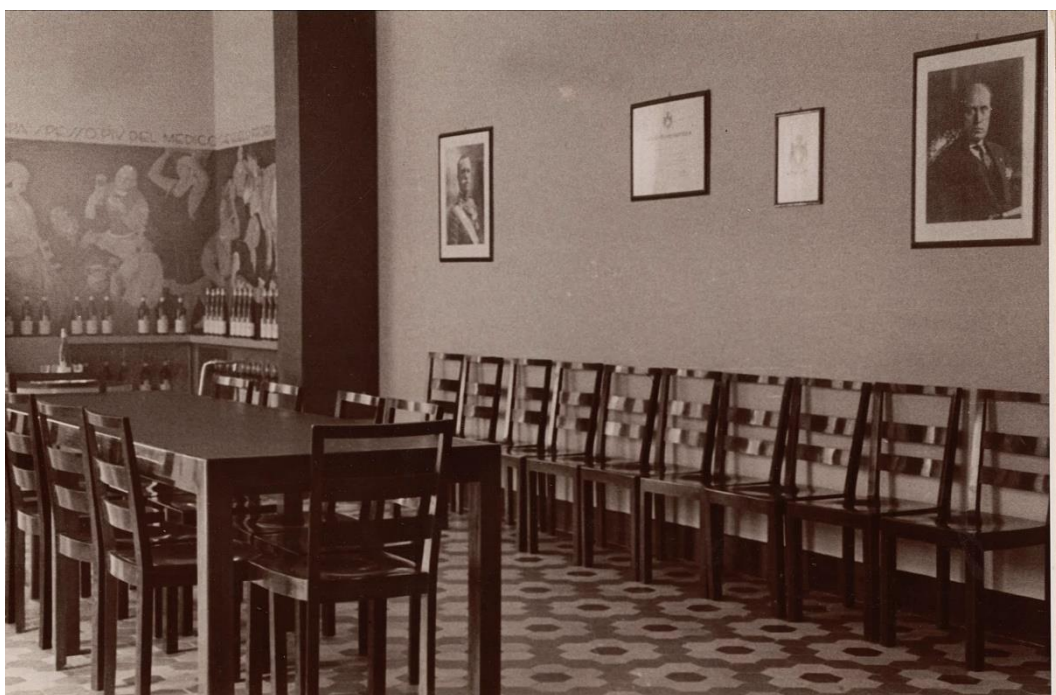
Grape processing and the beginning of research on the most suitable ways of vinifying grapes of certain varieties, as well as determining their quality, were some of the main aims of the activities conducted in the Institute's wine cellar from its inception until 1882 (Orbanić, 1985; Vitolović, 1971), and in order to achieve the desired results, a cellar of greater capacity was established. The cellar was divided into two sub-units during this period: a processing unit and a storage unit. In the first year of operation, 44 hl of wine was obtained from domestic grape varieties, procured mainly from the vicinity of Poreč (Vitolović, 1956). In 1883, a new wine cellar was arranged on the ground floor of the Istrian Parliament (Orlić, 1985; Poropat Pustijanac, 2013; Vitolović, 1971), while in 1907, when a new school building was constructed, a wine cellar was arranged according to the most modern standards of that time. Giuseppe Bauer (Dalla Giunta provinciale dell'Istria, 1876) was appointed the first winemaker and fruit-grower, but Donato Libutti also stood out as a significant winemaker, who worked almost continuously until 1947 (Vitolović, 1971).



Equipment and space for grape processing at the beginning of the 20th century
Source: IPTPO Archive

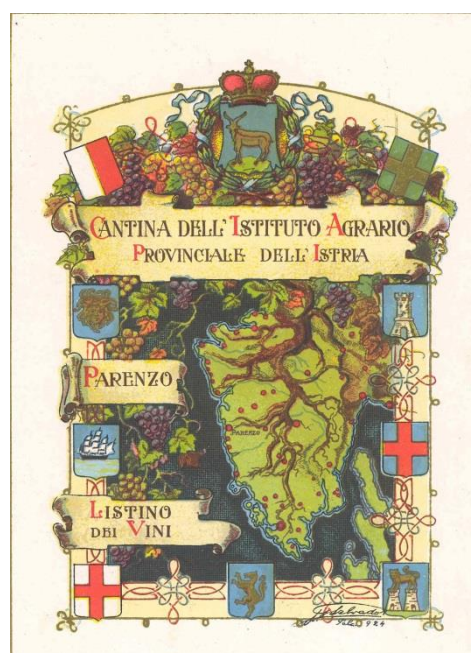
From the Institute's establishment until the end of the 19th century, significant success was achieved at wine exhibitions in Trieste and Conegliano, as well as after participation at various wine exhibitions in the Austro-Hungarian Empire and beyond. In the experimental cellar, research related to the fermentation and wine storage and care was carried out to find optimal vinification technologies for particular grape varieties. This resulted in the first major recognition, gained in 1902 at the World Wine Exhibition in Turin, after which significant medals and diplomas followed. Apart from the local market, the Institute's wines were also exported, mostly to Central Europe (Marin, 1983; Poropat Pustijanac, 2013; Vivoda, 1988).

At the end of the first decade of the 20th century, the Institute was producing table wines (red and white), several exceptionally good monovarietal wines (Cabernet Sauvignon, Pinot Noir, Pinot Gris, Semillon and Traminer) and sweet dessert wines (Muscat Blanc and Muscat Rose), which were produced from grapes grown in the region. At that time, guidelines for wine consumers were developed, and provided advice on how to store and drink wine (Donato Libutti, 1914). The quality of Poreč wines was confirmed with the awards received from the supplier of the Italian royal house (Italian: Fornitore della Real Casa), and at the wine exhibition in Brussels in 1935 (Marin, 1983; Poropat Pustijanac, 2013).



Tasting Room – Period of Italian Administration
Source: IPTPO Archives

PREZZO CORRENTE	
(Valevole sino alla pubblicazione del nuovo)	
Vini in botte	
	Prezzo per Ettolitro
Vino rosso da pasto 1913	Cor. 56
Vino bianco da pasto 1913	" 56
Traminer 1911 (bianco)	" 100
Pinot bianco 1913	" 70
Vini in bottiglie	
	Prezzo per bottiglia
rosi	
Cabernet franc 1909	Cor. 1:20
Pinot nero 1911	" 1:20
Pinot bianco 1911	" 1:20
Pinot grigio 1908	" 1:20
Semillon 1908	" 1:20
Traminer 1911	" 1:30
bianchi	
Moscato bianco (da dessert)	" 1:50
Moscato rosa (da dessert)	" 1:70
Campioni gratis a richiesta.	
Tutte le bottiglie portano impresse sul turacciolo le parole: ISTITUTO AGRARIO DELL' ISTRIA.	
Ad esercenti e trattori i vini bianco e rosso da pasto vengono venduti anche in bottigliette di circa 1/4 di litro confezionate con capsula ed etichetta, al prezzo di Corone 32 al cento compreso il costo del vetro. Le bottigliette da 1/4 di litro fornite, si prendono di ritorno al prezzo di Corone 12 il cento purché intere e rese franche alla Cantina.	
Non si spedisce vino in fusto a chi vende queste bottigliette.	
Prezzo dei fusti da trasporto	da litri 50 a 60 80 a 110 150 200 300
	Cor. 12 a 14 15 a 17 19 21 25
Prezzo delle damigiane rivestite di vimini bianchi	da litri 15 20 25
	Cor. 3.30 3.90 4.50
Prezzo delle casse per bott.	per bott. 6 12 18 24 30 42 50
da 1/10 compreso l'imballaggio	Cor. 1.15 1.95 2.75 3.60 4.20 5.30 6.00
Prezzo delle casse inferrate per coloro che prendono bott. da 1/4	Bottiglie 100 125
	Cor. 12 14
Leggere a tergo le condizioni di vendita.	



Guidelines for wine consumers in which advice is given on how to store and drink wine
Source: IPTPO Archive

During the 1930s, winemaking was further improved, and was one of the significant resources after the Second World War. Until 1955, the cellar continued to develop, so at that time it had a capacity of 65 wagons of wine, and was equipped with modern equipment for wine processing and care. During this period, the continuity of production of fine bottled and dessert wines was maintained (Report of the Secondary Agricultural School, 1956).



Picture of the wine cellar from 1954

Source: Center for Historical Research,
Rovinj, ARCHIVIO CRS 855-F-1986

During the 1960s, the wine cellar functioned as one of the few large Istrian wine producers. The enologists who led it tried to follow the trends and apply new technical and technological solutions. In that period, wines produced in the Institute's cellar received awards at numerous domestic and international wine festivals (Vitolović, 1971).

Until the end of the 1980s, the cellar was mainly used for production purposes, i.e. wine was mainly produced for the market. Equipment installed at the beginning of the 20th century was used for grape processing, fermentation and wine aging, including: mulchers, presses, pumps, concrete tanks lined with glass plates for must fermentation, and wooden barrels for wine aging. In total, approximately 30 wagons of wine were produced annually. The capacities were sufficient to process a large amount of grapes, and for this purpose concrete tanks covered with glass on the inside were used, so that the must would not come into direct contact with the concrete material. There were 15 tanks of this type, each of which had a capacity of 10,000 litres. Wooden barrels with a capacity of 5,000, 2,000 and 500 litres were used for wine. This part of the cellar is not used today due to the outdated technology.

After the establishment of the Agricultural Science Center (ASC), the wine cellar was modernised and the focus was put on the production of wines from autochthonous varieties, primarily Istrian Malvasia, Teran and Muscat Rose of Poreč.



Diplomas and medals as a proof of continuity of wine quality
Source: IPTPO Archive

During 1998, the cellar was adapted, and so today the modernly-equipped wine cellar, called "Minivinification" owing to a large number of smaller stainless steel tanks and application of the latest technological achievements, allows simultaneous performance of a number of scientific winemaking experiments with the appropriate number of repetitions. This is of great importance for the research in the field of enology conducted at the Institute, but also for the transfer of knowledge to the regional wine environment.



Wine cellar "Minivinification"

Source: IPTPO

Today, the wine cellar "Minivinification" is primarily used for scientific research purposes, and since 2017, after the establishment of a wine shop within the cellar, it has also been used for the production and sale of wine to a lesser extent.

The wine cellar is located in a different building in relation to the main building of the Institute. The area of the cellar is 800 m² and its current infrastructure is rather modern and adapted for performing contemporary technological wine experiments. The cellar is equipped with smaller stainless steel tanks with a volume of 50, 75 and 110 litres, larger tanks of 620 and 1100 litres, and vinifiers of 450 litres. The capacity of the cellar is currently approximately 30,000 litres. The cellar equipment includes a cooling system for the purpose of carrying out fermentation at a controlled temperature and other necessary elements such as grape crushers, presses, and wine transfer pumps, etc.

During 2019, the wine cellar "Minivinification" was upgraded with new equipment procured from the research project *VINUM SANUM – Influence of different vinification technologies on the qualitative properties of wines from autochthonous Croatian varieties: the role of wine in human nutrition*, with the aim of investigating the impact of different production technologies on qualitative properties of wines from autochthonous Croatian varieties and identifying technological factors and parameters that lead to an increase in the biological activity of produced wines. The equipment is adapted to perform various treatments of maceration of grapes in controlled conditions (short-term pre-fermentative, longer post-fermentative, thermovinification, etc.) and ageing of wine; it consists of 16 stainless steel tanks with a volume of 220 litres (including six iso stainless steel tanks for cryo-maceration), equipped with a manhole cover (including a grape mash mobile plunger), a floating lid with inflatable tube and pump, and a manway door, as well as a cooling system control unit, cooling pipes and a central cooling pipes carrier, inert gas and carbon dioxide systems, and six wooden barrique barrels for wine ageing.



Wine Cellar employees, September 2020
Source: IPTPO

Scientific research conducted using the cellar's premises and existing equipment is mainly focused on optimising traditional and modern technologies, as well as developing innovative technologies and production processes, with the ultimate goal of increasing the competitiveness of wines in this area. By selecting and developing production technologies adapted to the potential of each (autochthonous) variety, the intention is to significantly improve production sustainability by obtaining distinguished and typical wines of superior sensory quality in which improved nutritional content and positive effect on human health is achieved or identified, together with a more prominent connection with local production.

Today, the main commercial activity of the cellar is focused on "retail" sales of various red and white table wines, with a plan to continue the production and sales in the future.

The Institute's wine cellar area is divided into two main units; the first is the experimental and production unit, while the second unit contains valuable exhibits of wine equipment from different historical periods. These remains include several old wooden barrels, concrete tanks and other winemaking equipment. In order to preserve these exhibits and present them to the general public, the plan is to arrange a permanent museum exhibition in this part of the cellar.

LABORATORIES

The chemical laboratory began operating in 1882 with the aim of providing assistance to research work, professional training of students, offering services to manufacturers, and testing parameters for the purpose of controlling the Institute's own production. Riccardo Callegari was mentioned as the first chemist in the laboratory, and phytopathological analyses were signed by Carlo Hugues, while during the period spanning 1890-1891 phytopathological and enological analyses were signed by Arturo Marescalchi. After 1895, analyses were also signed by Donato Libutti. In the period spanning 1883-1898, 5,868 analyses were performed in the laboratory, which gave an average of 391 analyses per year. Most of them were phytopathological analyses related to fungal diseases.



Chemical laboratory at the beginning of the 20th century
Source: IPTPO Archive



Laboratory cabinet at the beginning of the 20th century
Source: IPTPO Archives

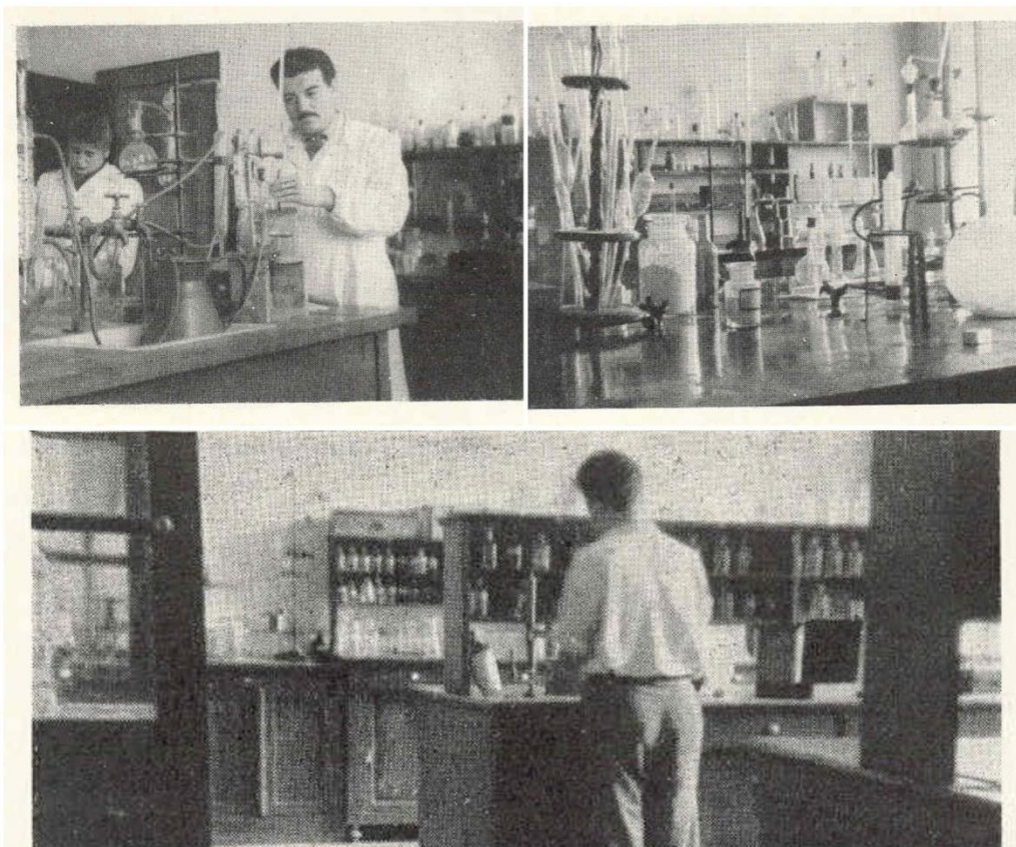


Laboratory cabinet details – Period of Italian Administration
Source: IPTPO Archive

After the Second World War, the laboratory operated within the District Agricultural Station under the leadership of Ante Gasperini, and as of 1946 under the leadership of Vinko Tadejević. Later on it was a part of the Agricultural School, and from 1954 a part of the Institute for the Improvement of the Economy, following which it was included in the Agricultural Station. After the war, the laboratory was authorised to perform analyses of wine (composition, trade, treatment of diseases and defects), feed and other agricultural products for the selection and introduction of new fodder plants,

as well as to offer advice on the quality of soil (calcification, humification and use of mineral fertilisers). During that period, the chemical laboratory was primarily used to perform student exercises in chemistry, pedology and winemaking, but it also performed service activities in the form of various analyses related to winemaking, pedology and agrochemistry. It was authorised to conduct chemical analysis of wine, feed, plant protection products, fertilisers, and soil.

The laboratory, in cooperation with enological departments, performed complete sets of analyses of wines made of then-standard varieties. These analyses resulted in the development of wine statistics, as well as other research, which ultimately contributed to better knowledge of the eno-chemical and other characteristics of Istrian wines. On average, the laboratory processed approximately 1,000 samples of wine, milk, soil, etc. per year, and in the period spanning 1945-1954 it was especially engaged as a support in the prevention and treatment of grapevine diseases. By 1955, over 3,000 various interventions within advisory work in the field of enology had been carried out (Orbanić, 1985; Tadejević, 1956; Vitolović, 1971).



Chemical Laboratory in 1950

Source: Report of the Secondary Agricultural School and Poreč Station

During the 1970s, Professor Marija Kadić, and then in the early 1980s Marija Šušnjić, B.Sc. agronomy, conducted a relatively wide range of analyses primarily for the practical work needs of agricultural school students. With the establishment of the Agricultural Science Center (ASC), the need for a chemical laboratory in the context of conducting scientific research re-emerged.

After the establishment of the Agricultural Science Center, the modernisation and equipping of laboratories for scientific needs continued. Nevertheless, the chemistry laboratory still retained its educational function, and so during this period it held practical classes for students of the agricultural school, through which those students were taught about the basic analyses of grapes and wine.



Laboratory in Support of Science and Education – 2nd Half of the 20th Century
Source: IPTPO Archive

In 1984, Končeta Brnobić, master's degree in chemical technology engineering, in cooperation with Livija Legović, master's degree in agronomy, began to work on the development of a chemical laboratory in a scientific context. In 1985, a development programme for equipping a chemical laboratory was prepared, which provided the foundation for the continuous development and registration of an enological (wine) laboratory, as well as for a future pedology laboratory. During the year 1985, a pedology laboratory was equipped and trained to operate as part of the chemical laboratory, primarily for the analysis of potassium, phosphorus, nitrogen and soil pH. Based on the performed analyses, the laboratory started to provide recommendations for fertilisation. Foliar analyses of macroelements, as well as analyses of various natural humus and peat were performed, and seed germination was examined. In 1988, conceptual solutions for new laboratories (wine, pedology, microbiology, seed testing laboratory, plant protection laboratory, residue testing laboratory and micropropagation laboratory) were developed.

In the early 1990s, a nematology laboratory also existed at the Institute, since a number of scientists and professors from the Josip Juraj Strossmayer University in Osijek, Faculty of Agriculture, conducted a part of their research in Istria during the war in the Republic of Croatia.

Today, six laboratories operate within the Institute: Wine, Food and Biotechnology, Genetics, Laboratory for Soil, Plant and Water, Plant Phenotyping Laboratory and Laboratory for Plant Protection. All laboratories are organisational units within the Department of Agriculture and Nutrition. They continuously perform scientific research within various projects and commercial activities aimed at providing services of physico-chemical and sensory analysis of various agricultural and food products. The laboratories are equipped with modern instruments which allow detailed physico-chemical analysis and the obtaining of data which are acceptable for publication in the most eminent scientific journals in the field, as well as data based on which various phenomena and properties of agri-food products can be accurately interpreted and exploited in practice. The Wine Laboratory and Food Technology and Biotechnology Laboratory both have the status of accredited laboratory according to the HRN EN ISO/IEC 17025 standard.

The **WINE LABORATORY**, as an organisational unit of the Institute, came into being in 1984. Since then, it has permanently contributed to the development and improvement of the sustainability of viticultural and enological production, as well as the amelioration of the quality of its products through scientific research and professional activities. The Wine Laboratory serves as a solid infrastructural support in the implementation of scientific research projects of the Institute in the areas of viticulture and enology, and the team of scientists from the laboratory to date has profiled itself as one of the reference groups at the national level with international recognition. Apart from scientific work, in the Wine Laboratory the analyses are also performed within the commercial-service activity on the market with the aim of supporting producers in marketing wine and related products, controlling their production and quality, and organising wine exhibitions and competitions.



Employees of the Wine Laboratory – September 2020
Source: IPTPO

The laboratory is professionally and technically competent in performing analyses of the main physico-chemical parameters of wine, such as relative density, alcoholic strength by volume, total dry extract, ash, reducing/total sugars, total and volatile acidity, pH, free and total SO₂, CO₂ pressure, glucose, fructose and sucrose, tartaric, citric, malic, lactic and gluconic acid, glycerol, total phenols, etc. The Wine Laboratory is specialised in chromatographic analyses, with particular emphasis on profiling sensory-active wine constituents, such as volatile aroma compounds and phenols. The laboratory also performs analysis of protein stability and wine fining tests. A special feature of the laboratory is the ability to perform sensory analysis of wine, which is conducted by the laboratory's Commission for Organoleptic (Sensory) Evaluation of Wine and Spirits using different methods (OIV 100 points method, Buxbaum method, quantitative descriptive sensory analysis). The laboratory service also includes free consulting activities.



Wine Laboratory and Commission for Organoleptic (Sensory) Evaluation of Wine and Spirits Source: IPTPO

Since 2006, by decision of the Ministry of Agriculture, the laboratory has had the status of a laboratory authorised to perform professional activities of physico-chemical analysis of wine and other products for the purpose of placing these products on the market. Since 2009, the laboratory has been accredited according to the international standard HRN EN ISO/IEC 17025 for physico-chemical methods, but also for the method of sensory analysis of wine conducted by the above-mentioned Commission within the laboratory, which makes it one of the few in this part of Europe with such a service.

The Wine Laboratory employs seven staff members, including two scientists, two doctoral students and three technicians. Among the more important equipment, it is worth mentioning a gas chromatograph/mass spectrometer, two gas chromatographs, a high-performance liquid chromatograph, a UV/Vis spectrophotometer, a hydrostatic balance, and electronic distillers.

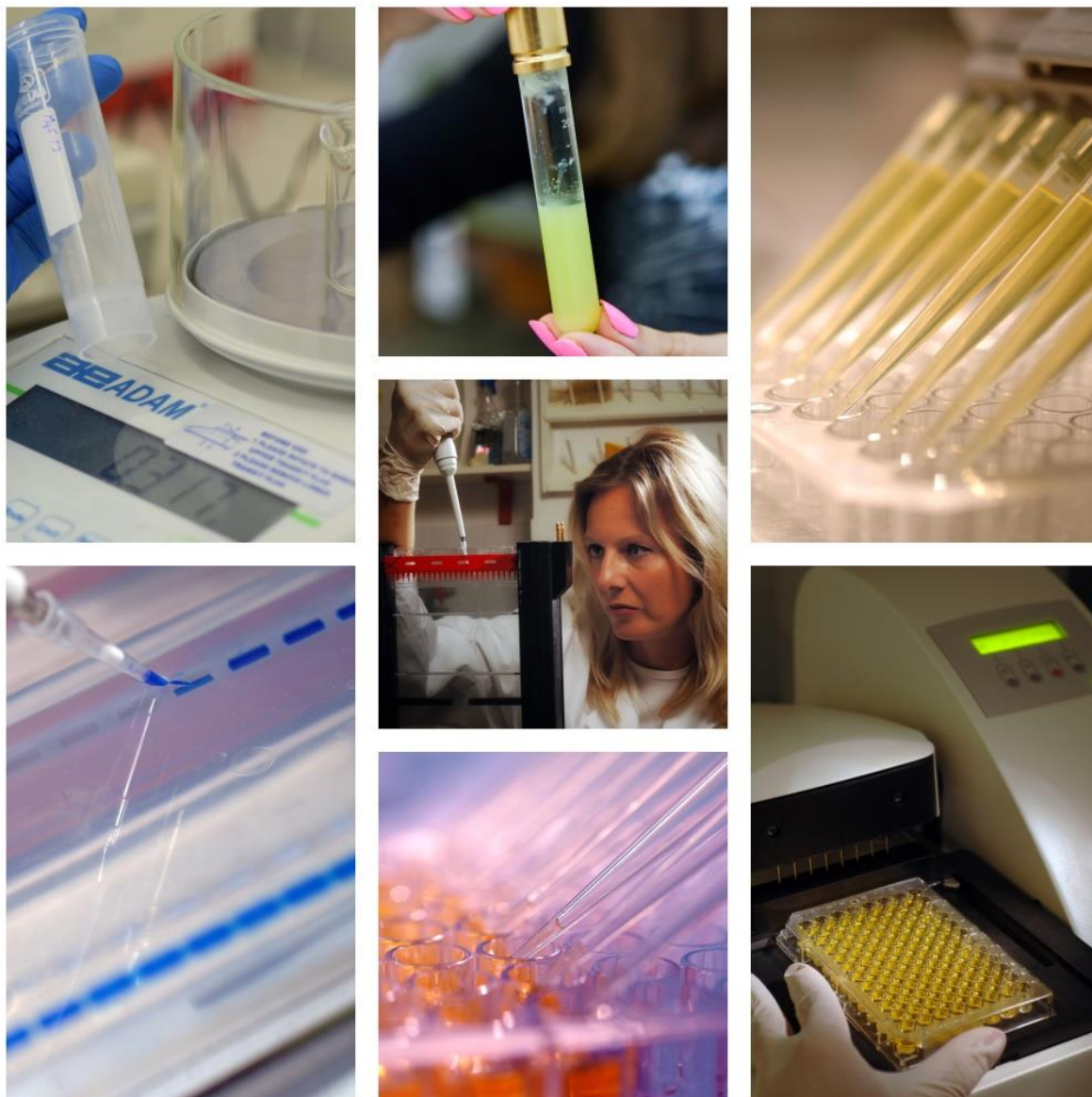
In terms of the future work of the Wine Laboratory, the plan is to continue participating in research that will contribute to the sustainability of viticulture and wine production, as well as the identification, preservation and improvement of various aspects of wine quality. It is also planned to expand the professional service and consulting activities of the laboratory in accordance with the legislation, in order to better support producers and improve the functioning of the sector's market.

The **GENETIC LABORATORY** was established in 2003, with the aim of conducting analyses necessary for the establishment and maintenance (health control) of experimental plantations and gene banks of indigenous varieties of grapevine, olives and other agricultural crops.



Genetic Laboratory employees – September 2020
Source: IPTPO

The laboratory operates within the Department of Agriculture and Nutrition, and is equipped with basic laboratory equipment for molecular analysis of plant material. This basic equipment includes a lyophilizer, an electrophoresis system, a cooling centrifuge, a spectrophotometer/fluorometer, a thermal cycler (PCR) with a gradient, and other medium and small equipment.



Genetic Laboratory
Source: IPTPO

The Genetic Laboratory primarily performs analyses as part of scientific research projects in the field of biotechnology, aimed at the preservation and protection of plants' genetic resources and the protection of the origin of autochthonous products. The laboratory is currently actively participating in the National Program for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture in the Republic of Croatia, in which the Institute participates in "ex situ" conservation of plants' genetic resources and works within four working groups. As part of its commercial activity, the laboratory, currently the only one in Croatia, provides the service of identifying a particular olive variety (*Olea europaea* L.) using molecular markers (*DNA fingerprinting*). In the coming period, the laboratory will continue to monitor trends in biodiversity research, with special emphasis on the detection and monitoring of genetic diversity (wild and cultivated) of species and their potential for adaptation to create a basis for developing targeted research activities that can result in different recommendations and directions.

The **PEDOLOGICAL LABORATORY** was founded in 2003, and in November 2019 it was renamed the **LABORATORY FOR SOIL, PLANT AND WATER** with the aim of expanding the area of analysis to other types of matrices, such as plant material and water. Initially, the

laboratory was established to provide adequate support to farmers through physico-chemical testing of soil and advice in order to monitor soil fertility, ensure the proper use of minerals and organic fertilisers, achieve adequate yields, and exercise the right to incentives established by the current legislative framework.



Employees of the Laboratory for Soil, Plant and Water – September 2020
Source: IPTPO

In addition to commercial activities, this type of laboratory is extremely important for the scientific activities of the Institute in the fields of pedology, hydrology, physiology and plant nutrition.

The analyses for which the laboratory is qualified are divided into two groups:

A) Basic soil analysis includes:

- determination of total nitrogen, easily accessible phosphorus and potassium content of plants, soil organic matter, soil pH in water and KCl, total salts, physiologically-active lime and total carbonates. The service also includes the recommendation of fertilisation depending on agricultural crops, area and yield
- mechanical soil analysis

B) Elemental analysis of soil, plant material and water includes:

- determination of pH, nitrogen and carbon (TOC, NPOC, IC, TN), microelements, macroelements, heavy metals and cation exchange in soil



Laboratory for Soil, Plant and Water
Source: IPTPO

The Laboratory for Soil, Plant and Water has five employees, of whom one is a research associate, one is an expert associate, two are doctoral students, and one is a technical associate. The laboratory has the equipment necessary to perform the above analyses, and it is worth noting that it is also equipped with a UV-VIS spectrometer, a flame photometer, a FTIR with NIR instrument, and various "metal-free" mills.

In terms of future work, the plan is to continue participating in the implementation of scientific research and cooperation with economic entities and family farms in the control of soil fertility and soil pollution. It is planned to continuously introduce new analytical methods and procure new sophisticated equipment, as well as to have the laboratory authorised by the Ministry of Agriculture.

The **FOOD TECHNOLOGY AND BIOTECHNOLOGICAL LABORATORY** was established in 2005 with the aim of developing and continuously improving scientific research and professional activities in the field of olive growing and olive oil production. Since 2008, the Panel for Sensory Analysis of Virgin Olive Oil has been operating within the laboratory.

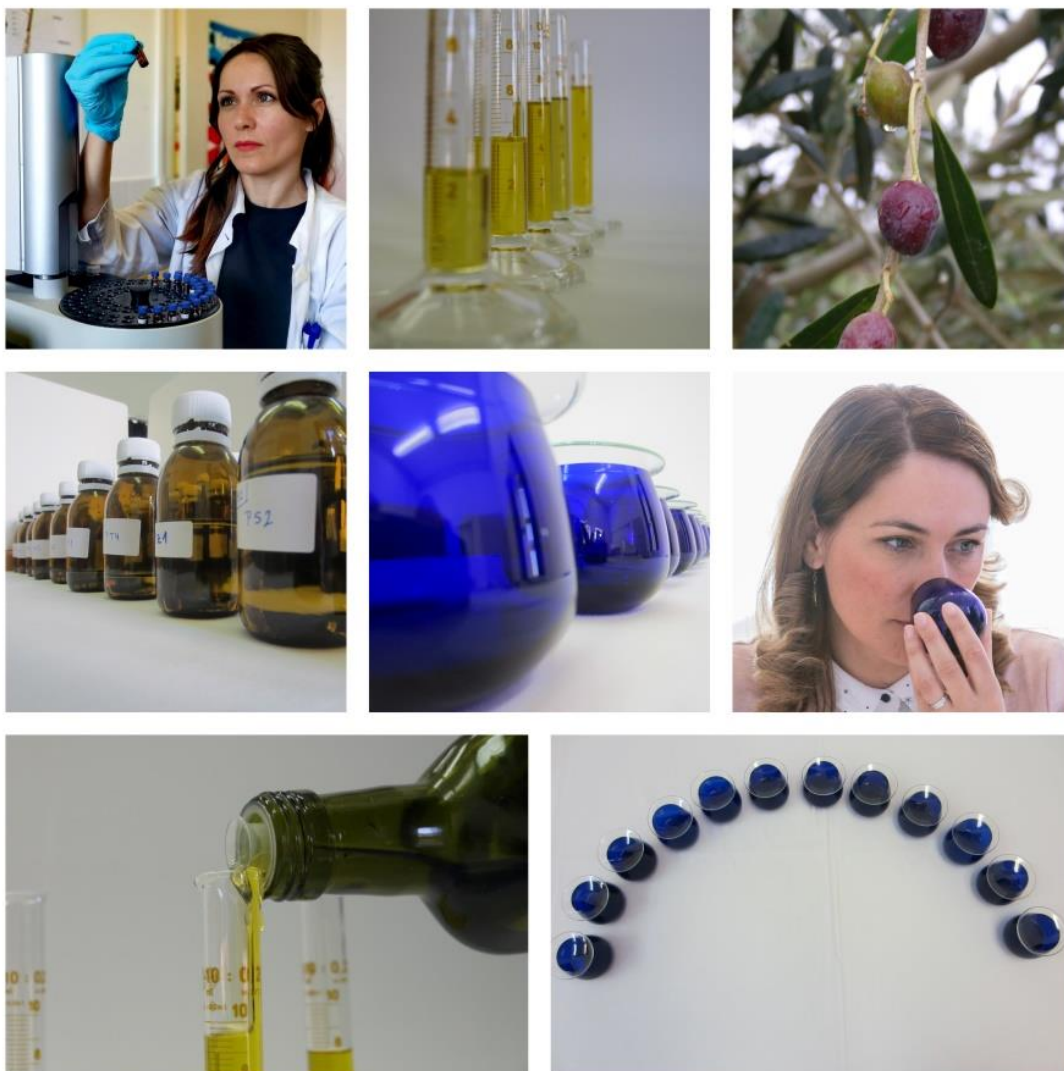


Employees of the Food Technology and Biotechnology Laboratory – September 2020
Source: IPTPO

The Food Technology and Biotechnology Laboratory continuously conducts activities aimed at testing the quality, composition and authenticity of olive oil for the purposes of scientific research and professional activities on the market, such as:

- quality category verification (acidity, peroxide value, K-indices, ethyl esters of fatty acids, sensory analysis)
- verification of authenticity of olive oil
- testing the composition of olive oil for the purposes of creating a table of nutritional values and declarations (composition of fatty acids, waxes)
- examination of additional quality parameters (phenols and volatile compounds from olive oil, extended descriptive sensory analysis)

Instrumental analyses of olive oil within the laboratory are performed using three gas chromatographs (two GC-FIDs and a GC-MS), a liquid chromatograph (HPLC), a UV/Vis spectrophotometer, and a Soxtec device, while testing of sensory quality attributes is performed by the Panel for Sensory Analysis of Virgin Olive Oil. Seven employees are involved in laboratory activities, and a total of 17 internal and external members of the panel participate in the work of the said panel.



Food Technology and Biotechnology Laboratory and Panel for Sensory Analysis of Virgin Olive Oil
Source: IPTPO

The Food Technology and Biotechnology Laboratory and the Panel for Sensory Analysis of Virgin Olive Oil are accredited according to the international standard HRN EN ISO/IEC 17025 by the Croatian Accreditation Agency, authorised as official by the Ministry of Agriculture, and recognised by the International Olive Council – IOC. Approximately 500 samples of olive oil are tested annually for producers and other entities in the food sector and in the procedures of official control of olive oils from the market, as well as an equally large number of samples within scientific research conducted at the Institute.

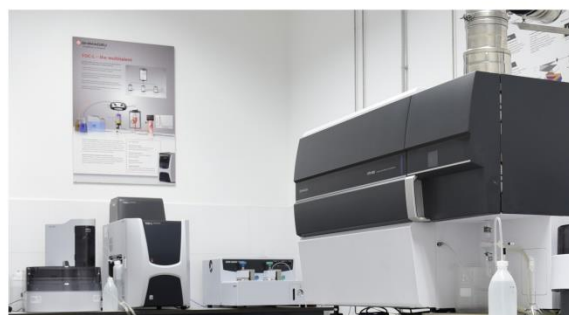
The laboratory also has an important advisory role, both for end users and for official bodies, because it is involved in the work of olive oil expert groups that create EU policies and regulations and international marketing standards of organisations such as the International Olive Council and Codex Alimentarius. The results of the scientific activity in the Food Technology and Biotechnology Laboratory and the Panel for Sensory Analysis of Virgin Olive Oil are recognised through national and international scientific and professional projects as well as scientific papers published in highly-ranked international scientific journals. The Food Technology and Biotechnology Laboratory, together with the Panel for Sensory Analysis of Virgin Olive Oil, intends to continue in maintaining accreditation, official authorisations and recognitions, and a high level of staff competencies and scientific work, with the aim of achieving international recognition that will enable further research, strengthen infrastructure, and make it possible to expand the scope of work. As such, it will significantly contribute to the

sustainable development of agriculture and the economy in the sector at the regional, national and international levels.

The **PLANT PHENOTYPING LABORATORY** was established in 2019 as a result of work on the project Biodiversity and Molecular Plant Breeding, which is implemented in cooperation with the Centre of Excellence for Biodiversity and Molecular Plant Breeding (CroP-BioDiv), and is funded by the European Regional Development Fund (KK.01.1.01.005). The aim of the laboratory is to establish a high-throughput system of phenotyping techniques (methods) that will enable a more precise understanding of morphological, biological and physiological processes in cultivated plants, especially under the influence of abiotic and biotic stress caused by climate change. In accordance with the stated goal, the employees of the laboratory are engaged in the study of the mineral composition and biochemical profile of the investigated vegetable and fruit species. During the year 2019, a number of methods were introduced for the analysis of bioactive compounds (determination of the profile of sugars, organic acids and phenols by high performance liquid chromatography (HPLC) and total glucosinolates, total phenols, and antioxidant activity (ORAC, DPPH and FRAP) by spectrophotometry). The laboratory has also established systems for studying physiological parameters related to photosynthesis and water relations in the plant and systems for studying the morphological properties of aboveground and underground plant organs (leaves, roots, fruits and seeds).



Employees of the Plant Phenotyping Laboratory – September 2020
Source: IPTPO



Plant Phenotyping Laboratory
Source: IPTPO

The laboratory primarily conducts analyses for the needs of scientific and professional projects that take place at the Institute, while the introduction of commercial analyses is planned according to the requirements of the market. The equipment procured through the CroP-BioDiv project is of a newer generation and enables plant phenotyping by high-throughput analytical techniques (ICP-OES, TOC/TN) and systems for measuring morphological and physiological properties of the plant (e.g. LI-COR 6800, LI-3000C LA Meter). Furthermore, using other funding sources, a HPLC system, a microtiter plate reader, and an air conditioning chamber, etc., were procured. At present, two scientists, two postdoctoral students and two doctoral students work in the laboratory. Future activity includes the development of analytical methods and tools in accordance with the needs of scientific research activities at the Institute.

The **LABORATORY FOR PLANT PROTECTION** was established in 2019 on the premises of the former Pedology Laboratory with the aim of developing and conducting diagnostics of plant pests, i.e. pathogens in plant material.



Employees of the Laboratory for Plant Protection – September 2020
Source: IPTPO

The laboratory primarily conducts activities in the area of phytovirology, i.e. diagnosis of viruses in plant material, since the Institute has experience and already has the necessary equipment in this as well as in other laboratories of the Institute. In addition to commercial activities, the laboratory is of great importance for scientific activities in the field of plant protection.

The laboratory is, or will be trained to, diagnose various plant pathogens (viruses, fungi and bacteria) in plant material. The methods in question are divided into three groups: serological methods (DAS-ELISA-test), molecular methods (Polymerase Chain Reaction – PCR) and biological methods (biotest) (mechanical inoculation and indexing).



Laboratory for Plant Protection
Source: IPTPO

A research associate and a doctoral student are involved in the laboratory activities. The laboratory has the equipment necessary to perform the above analyses, while a laminar and a trinocular microscope with a camera are worth mentioning. The laboratory also has a greenhouse for the cultivation of indicator test plants and the multiplication and detection of pathogens within the indicator plants. In terms of future work, the plan is to continue participating in the implementation of scientific research and cooperation with the economy. It is also planned to introduce new analytical methods and procure new equipment through future projects.

SCIENTIFIC PRODUCTIVITY

The success of the scientific research work of the Institute's employees is confirmed by the publication of scientific papers in various scientific journals, scientific books, chapters in scientific books and other scientific publications. In the last five years a total of over 150 scientific papers have been published, including 122 papers in publications indexed in the *Web of Science* database (Clarivate, Philadelphia, PA, USA), and 16 papers in journals indexed in other databases, while the rest of the papers were published in conference proceedings.

During these five years, the number of published scientific papers has been constantly increasing, accompanied by a change in the distribution among categories, with the number of papers published in journals indexed in the *Web of Science* database significantly increasing, which emphasises a significant improvement in the quality of the research performed at the Institute. Due to the improvements in the research infrastructure and specialisation of the scientists from the Institute, there is a clearly evident and significant increase in the number of papers published in prestigious world scientific journals with the highest impact factor from the so-called first quartile (Q1), according to the *Journal Citation Report* (JCR, Clarivate Analytics).

LIST OF SCIENTIFIC PAPERS PUBLISHED IN WoS DATABASE IN THE PERIOD SPANNING 2015-2019

Scientific Papers published in 2015

1. Becker, C., Urlić, B., Jukić Špika, M., Kläring, H.P., Krumbein, A., Baldermann, S., Goreta Ban, S., Perica, S., Schwarz, D. (2015). Nitrogen limited red and green leaf lettuce accumulate flavonoid glycosides, caffeic acid derivatives, and sucrose while losing chlorophylls, β -carotene and xanthophylls. *PLoS ONE*, 10(11), e0142867. Q1
2. Dropulić Ružić, M. (2015). Direct and indirect contribution of hrm practice to hotel company performance. *International Journal of Hospitality Management*, 49, 56–65. Q1
3. Lukić, M., Lukić, I., Sladonja, B., Piližota, V. (2015). Variability of 4-monomethylsterols and 4,4'-dimethylsterols in olive oil and their use as indicators of olive variety, ripening degree, and oil storage temperature. *Journal of Agricultural and Food Chemistry*, 63, 5499–5508. Q1
4. Radunić, M., Jukić Špika, M., Goreta Ban, S., Gadže, J., Díaz-Pérez, J.C., MacLean, D. (2015). Physical and chemical properties of pomegranate fruit accessions from Croatia. *Food chemistry*, 177, 53–60. Q1
5. Lukić, I., Jedrejčić, N., Kovačević Ganić, K., Staver, M., Peršurić, Đ. (2015). Phenol and aroma composition of white wines produced by prolonged fermentative maceration and maturation in wooden barrels. *Food Technology and Biotechnology*, 53, 407–418. Q2
6. Lukić, M., Lukić, I., Sladonja, B., Piližota, V. (2015). Policosanol variation in olive oil as a result of variety, ripening, and storage. *European Journal of Lipid Science and Technology*, 117(8), 1248–1260. Q2
7. Maletić, E., Pejić, I., Karoglan Kontić, J., Zdunić, G., Preiner, D., Šimon, S., Andabaka, Ž., Žulj Mihaljević, M., Bubola, M., Marković, Z., Stupić, D., Mucalo, A. (2015). Ampelographic and genetic characterization of Croatian grapevine varieties. *Vitis*, 54(SI), 93–98. Q2
8. Poljuha, D., Šola, I., Bilić, J., Dudaš, S., Bilušić, T., Markić, J., Rusak, G. (2015). Phenolic composition, antioxidant capacity, energy content and gastrointestinal stability of Croatian wild edible plants. *European Food Research and Technology*, 241(4), 573–585. Q2
9. Rafajac, O., Saftić, D. (2015). How to reduce costs? - Discussion about a need for a new economic paradigm, *Economic Research-Ekonomska Istraživanja*, Sup. 2, 179–192. Q2
10. Rusjan, D., Bubola, M., Janjanin, D., Užila, Z., Radeka, S., Poljuha, D., Pelengić, R., Javornik, B., Štajner, N. (2015). Ampelographic characterisation of grapevine accessions denominated

'Refošk', 'Refosco', 'Teran' and 'Terrano' (*Vitis vinifera* L.) from Slovenia, Croatia and Italy. *Vitis*, 54(SI), 77–80. Q2

11. Sladonja, B., Sušek, M., Guillermic, J. (2015). Review on Invasive Tree of Heaven (*Ailanthus altissima* (Mill.) Swingle) Conflicting Values: Assessment of Its Ecosystem Services and Potential Biological Threat. *Environmental management*, 56(4), 1009–1034. Q2
12. Klarić, S., Rakitovac Afrić, K., Lesić Trošt, K. (2015). Corporate social responsibility of croatian marinas. *Ekonomika misao i praksa*, 24(1), 81–101.
13. Šergo, Z., Gržinić, J., Saftić, D. (2015). Modelling saturation intesits in the destination of Croatia: A panel dana aproach. *Tourism in South East Europe*, 3, 383–387.
14. Šergo, Z., Težak Damijanić, A. (2015). The determinants of quality signalling using star rating in the hotel industry of Croatia. *Tourism in South East Europe*, 3, 399–414.
15. Težak Damijanić, A., Ružić, P. (2015). Sociodemographic variables in profiling wellness tourists. *Tourism in South East Europe*, 3, 441–452.

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16. Diago, M.P., Krasnow, M., Bubola, M., Millan, B., Tardaguila, J. (2016). Assessment of vineyard canopy porosity using machine vision. *American Journal of Enology and Viticulture*, 67(2), 229–238. Q1
17. Lukić, I., Radeka, S., Grozaj, N., Staver, M., Peršurić, Đ. (2016). Changes in physico-chemical and volatile aroma compound composition of Gewürztraminer wine as a result of late and ice harvest. *Food Chemistry*, 196, 1048–1057. Q1
18. Baša Česnik, H., Velikonja Bolta, Š., Bavčar, D., Radeka, S., Lisjak, K. (2016). Plant protection product residues in white grapes and wines of 'Malvasia Istriana' produced in Istria region. *Food Additives & Contaminants: Part B*, 9(4), 256–260. Q2
19. Baum, T., Cheung, C., Kong, H., Kralj, A., Mooney, A., Thi Thanan, H. N., Ramachandaran, S., Dropulić Ružić M., Siow, M.L. (2016). Sustainability and the Tourism and Hospitality Workforce: A Thematic Analysis. *Sustainability*, 8(8), 809, 1–21. Q2
20. Janjanin, D., Karoglan, M., Herak Ćustić, M., Bubola, M., Osrečak, M., Palčić, I. (2016). Response of 'Italian Riesling' Leaf Nitrogen Status and Fruit Composition (*Vitis vinifera* L.) to Foliar Nitrogen Fertilization. *HortScience*, 51(3), 262–267. Q2
21. Koprivnjak, O., Brkić Bubola, K., Kosić, U. (2016). Sodium chloride compared to talc as processing aid has similar impact on volatile compounds but more favourable on ortho-diphenols in virgin olive oil. *European Journal of Lipid Science and Technology*, 118, 318–324. Q2
22. Crkvenčić, M., Dudaš, S., Jerković, I., Marijanović, Z., Poljuha, D., Hazler Pilepić, K. (2016). Essential Oil Composition of Three Globularia Species. *Chemistry & Biodiversity*, 13, 219–223. Q3
23. Dudaš, S., Poljuha, D., Šola, I., Šegula, S., Varga, S., Sladonja, B. (2016). Effects of biodynamic production on growth and essential oil content in basil. *Acta Botanica Croatica*, 75(2), 260–265. Q3
24. Dudaš, S., Šola, I., Sladonja, B., Erhatic, R., Ban, D., Poljuha, D. (2016). The effect of biostimulant and fertilizer on "low input" lettuce production. *Acta Botanica Croatica*, 75(2), 253–259. Q3
25. Godena, S., Faggioli, F., Luigi, M., Saponari, M., Loconsole, G., Vončina, D., Đermić, E. (2016). Incidence of viruses on autochthonous and introduced olive varieties in Croatian Istria detected by three diagnostic techniques. *Journal of Plant Pathology*, 98(3), 657–660. Q3
26. Ilak Peršurić A.S., Težak Damijanić A., Saftić D. (2016). Winery and wine exhibition visitors' characteristics in the context of wine tourism development. *New Medit*, 4, 82–89. Q3
27. Urlić, B., Dumičić, G., Goreta Ban, S., Romić, M. (2016). Phosphorus-Use Efficiency of Kale Genotypes from Coastal Croatia. *Journal of Plant Nutrition*, 39(3), 389–398. Q3

28. Koprivnjak, O., Kriško, A., Valić, S., Carić, D., Krapac, M., Poljuha, D. (2016). Antioxidants, radical-scavenging and protein carbonylation inhibition capacity of six monocultivar virgin olive oils in Istria (Croatia). *Acta Alimentaria*, 45(3), 427–433. Q4
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30. Peršurić Ilak, A.S., Ban, D. (2016). Marketability of branded young potatoes - opinions of wholesalers. *Acta Horticulturae*, 1142, 187–192.
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VI INTERNATIONAL SYMPOSIUM ON FIGS

In addition to publishing scientific papers in various scientific publications, scientists of the Institute participate in the organization of various scientific conferences. During 2019, the VI

International Symposium on Figs was organised by the Institute, in cooperation with the International Society for Horticultural Science and under the auspices of the President of the Republic of Croatia Kolinda Grabar-Kitarović, the Ministry of Science and Education, and the Ministry of Agriculture. The symposium lasted from September 2 to September 5, and was held in Rovinj. The scientific symposium was attended by over 90 participants from more than 20 countries all around the world, and 39 lectures were held, while 35 posters were displayed. At the symposium, the world's leading scientists in the field of fig research discussed the most important scientific achievements in the field of a) genetic resources and biodiversity; b) plant (eco) physiology; c) protection against pests and diseases; d) fruit quality and processing technology; e) economics, marketing and industry and f) the impact of climate change on production. During the symposium, one day trip was organised to visit fig producers in Istria where the technological progress in the production and processing of figs was discussed.



VI. International Symposium on Figs
Source: IPTPO

POPULARISATION OF SCIENCE

The employees of the Institute perform certain activities related to the popularisation of science by publishing articles in various magazines, holding lectures for the public, organizing workshops, communicating directly with farmers and other stakeholders, and publishing research results in the media.



Popularisation of science towards the professional public
Source: IPTPO

The Institute has good communication and cooperation with the highest national authorities, and is often visited by the president of the state and various ministers. Through cooperation with the national administrative bodies, the Institute has positioned itself as an indispensable infrastructural player in creating a complete and functional agri-food system at the local, regional and national level.

The presentation of work, projects, and views on certain topics, is intensively undertaken through the media (print, radio, television, Internet), which elicits a very good response from the public. The communication with media is especially intensified during the implementation of projects when the scientific, professional and general public needs to be informed about current research and results. Cooperation with the local daily newspapers and radio stations, where the Institute often participates, is also very good. National and local media houses, especially through radio shows, often contact scientists and experts from the Institute, who thus have the opportunity to acquaint the general public with current issues in their fields of activity.

TERRA **istra**

Klikom miša do svježih

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IZAM SUĐELJUJE U NOVOM EUROPSKOM PROJEKTU INHERIT

■ ■ ■ ■ ■

odnu bastinu od og pritiska turizma

20 | ISTRA

as Istre

TERRA *Istra*

VINUM SANUM POREČKI INSTITUT ZA POLJOPRIVREDU I TURIZAM ISPITUJE DJELOVANJE VINA NA Ljudsko ZDRAVLJE

UTJECAJ MALVAZIJE I TERANA na tlak, kolesterol i hormone sreće



U istraživanju koje je provedeno u Poreču, utvrđeno je da konzumiranje ove dvije vrste vina pozitivno djeluje na krvni tlak, kolesterol i hormone sreće. Rezultati su pokazali da konzumiranje Malvazije i Terana može pomoći u smanjenju rizika od kardiovaskularnih bolesti i poboljšati raspoloženje.

Dr. sc. SARA GUGENHA istražuje utjecaj vina na ljudsko zdravlje. Ona je istraživačica u Porečkom institutu za poljoprivredu i turizam. U ovom istraživanju, ona je ispitala utjecaj Malvazije i Terana na krvni tlak, kolesterol i hormone sreće. Rezultati su pokazali da konzumiranje ove dvije vrste vina može pomoći u smanjenju rizika od kardiovaskularnih bolesti i poboljšati raspoloženje.

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20 | ISTRA

Posak, 10. listopada 2013.

Porečan u krugu vinarsko-vinogradarske znanstvene elite

Marijan Bubola s porečkog Instituta za poljoprivredu primljen u talijansku akademiju



Marijan Bubola se, uz niz drugih međunarodnih znanstvenih projekata iz područja vinogradarstva i vinarske proizvodnje, uključio i u znanstvenu elitu talijanske vinarske akademije. On je primljen u talijansku akademiju za poljoprivredu i turizam. U ovom istraživanju, on je ispitala utjecaj Malvazije i Terana na krvni tlak, kolesterol i hormone sreće. Rezultati su pokazali da konzumiranje ove dvije vrste vina može pomoći u smanjenju rizika od kardiovaskularnih bolesti i poboljšati raspoloženje.

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Glas Istre | **ISTRA** | Posak, 18. prosinca 2013. | 15

OKONČAN EUROPROJEKT PUTEVIMA MALVAZIJE ISTARKE

Malvazija je brend s izuzetnim potencijalom



Dr. sc. SARA GUGENHA istražuje utjecaj vina na ljudsko zdravlje. Ona je istraživačica u Porečkom institutu za poljoprivredu i turizam. U ovom istraživanju, ona je ispitala utjecaj Malvazije i Terana na krvni tlak, kolesterol i hormone sreće. Rezultati su pokazali da konzumiranje ove dvije vrste vina može pomoći u smanjenju rizika od kardiovaskularnih bolesti i poboljšati raspoloženje.

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18 | ISTRA

Posak, 11. prosinca 2013. | Glas Istre

Sreća i zdravlje uz malvaziju, teran, pošip i plavac mali

Dr. sc. SARA GUGENHA istražuje utjecaj vina na ljudsko zdravlje. Ona je istraživačica u Porečkom institutu za poljoprivredu i turizam. U ovom istraživanju, ona je ispitala utjecaj Malvazije i Terana na krvni tlak, kolesterol i hormone sreće. Rezultati su pokazali da konzumiranje ove dvije vrste vina može pomoći u smanjenju rizika od kardiovaskularnih bolesti i poboljšati raspoloženje.

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HRVATICA ČLANICA PANELOU NA NYU

Dr. sc. SARA GUGENHA istražuje utjecaj vina na ljudsko zdravlje. Ona je istraživačica u Porečkom institutu za poljoprivredu i turizam. U ovom istraživanju, ona je ispitala utjecaj Malvazije i Terana na krvni tlak, kolesterol i hormone sreće. Rezultati su pokazali da konzumiranje ove dvije vrste vina može pomoći u smanjenju rizika od kardiovaskularnih bolesti i poboljšati raspoloženje.

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KAKO SMANJITI ŠTETU OD ZIME

Dr. sc. MARIN KRAPAC istražuje utjecaj zime na ljudsko zdravlje. On je istraživač u Porečkom institutu za poljoprivredu i turizam. U ovom istraživanju, on je ispitala utjecaj zime na krvni tlak, kolesterol i hormone sreće. Rezultati su pokazali da konzumiranje ove dvije vrste vina može pomoći u smanjenju rizika od kardiovaskularnih bolesti i poboljšati raspoloženje.

Dr. sc. MARIN KRAPAC istražuje utjecaj zime na ljudsko zdravlje. On je istraživač u Porečkom institutu za poljoprivredu i turizam. U ovom istraživanju, on je ispitala utjecaj zime na krvni tlak, kolesterol i hormone sreće. Rezultati su pokazali da konzumiranje ove dvije vrste vina može pomoći u smanjenju rizika od kardiovaskularnih bolesti i poboljšati raspoloženje.

Popularisation of science – publications
Source: IPTPO

From its beginnings, the Institute has focused on the education of the youngest, the transfer of knowledge, and the increasing of interest in scientific research. There is very good cooperation between educational institutions of all levels (kindergartens, primary, secondary schools as well as higher education institutions) and the Institute, which is realised in the form of organised visits presenting professional or scientific content, lectures, workshops, and the organisation of various entertainment and educational activities. Every year, numerous kindergarten groups and school classes from all over Istria visit the Institute; children participate in the olive harvest, and help with the implementation of school projects for competitions, all through laughter and play. In addition, the infrastructure of the Institute supports the education system by providing practical classes held at the experimental agricultural estate, wine cellar, laboratories, etc., to secondary and higher education levels. It is worth mentioning the numerous final and diploma theses that were partially or completely compiled at the Institute.



Popularisation of science – workshops for children and youth
Source: IPTPO

The transfer of knowledge and results of research to all the stakeholders in the agri-food system in the area is one of the highest priorities in the overall activities of the Institute. The reason is that significant funds are invested in various forms of research, but despite this, the efficiency and direct application of the results of this research in the economy are still relatively low. Designing models and increasing the efficiency of knowledge transfer is a long-term activity of the Institute, which includes technological, organizational, economic and marketing assistance to the development of the agri-food system, as well as support to many entities involved in creating rural development.

Scientists of the Institute present their scientific results through alternative channels, such as publication of results in professional journals, yearbooks, presentations at professional conferences, exhibitions/festivals, round tables and many other events.

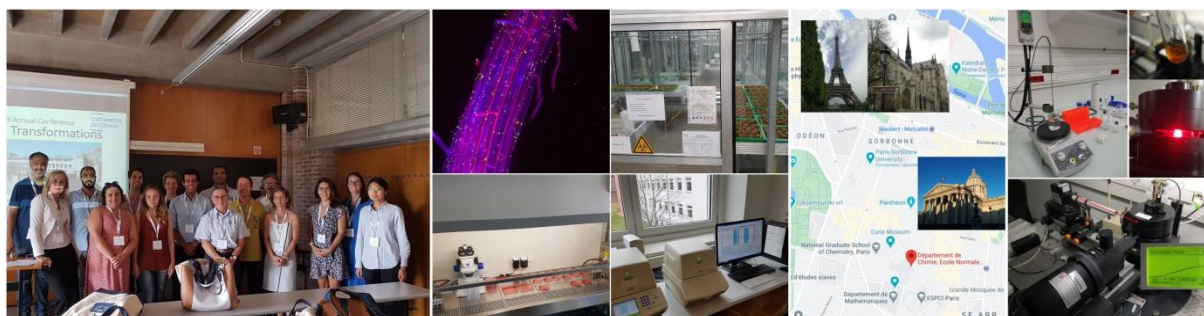
EMPLOYEE MOBILITY

In the last five years, the mobility of the Institute's employees has been encouraged, along with the visitations of external scientists and experts for a minimum of 30 days, thus meaning that a significant degree of mobility has been achieved.

Dr Nikola Major, B.Sc. spent three months (from December 2017 to March 2018) on scientific specialisation in the field of microbiology at the Institute for Epidemiology and Pathogen Diagnostics at Julius Kühn Institute in Braunschweig, Germany. In the mentioned period, an experiment was conducted to observe the effect of the addition of municipal sludge compost to the soil on the presence and survival of soil pathogens and active transfer of pathogens to the plant. Scientific training consisted of the adoption of traditional and modern microbiological methodologies that included methods for culturing bacteria on nutrient media, the use of confocal laser scanning microscopy, DNA extraction and purification, the use of PCR and qPCR methods, including amplification of 16S rRNA gene fragment and sequencing on Illumina MiSeq platform.

From March 12 to June 12, 2018, assistant (doctoral researcher) Ivana Horvat specialised at the prestigious École Normale Supérieure in Paris, France, located in the picturesque Latin Quarter near the magnificent mausoleum of the Panthéon and the famous Sorbonne University. At the Section of Biophysical Chemistry of the Department of Chemistry she monitored the turbidity of oxidised polyphenol solutions, and in the laboratories of the INRA-BIA unit in Le Rhe near Rennes she participated in LC-MS analysis of samples, within the project *Reversibility of aggregation in model solutions containing vegetal polyphenols*. As a result of the research, she contributed to the co-authorship of the abstract *Reversible self-aggregation of oxidized tannins in model solutions* (Millet, M., Horvat, I., Guilois-Dubois, S., Poupard, P., Guyot, S., Zanchi, D., 2018) and the oral presentation of the experiment and results at the *XXIXth International Conference on Polyphenols and the 9th Tannin Conference* (Madison, WI, USA, July 16-20, 2018).

Tina Šugar undertook scientific training through the Erasmus + mobility programme (study stay) for postgraduate study at the University of Girona, Spain, in the Faculty of Tourism and at the Tourism Research Institute (INSETUR), under the guidance of mentor Lluisa Prats Planaguma, PhD. She stayed there for a period of three months, from September 1, 2019 to November 30, 2019. During her stay in Spain, she participated in various activities for the purpose of scientific and professional training.



Mobility of Institute employees

Source: IPTPO

Dr Gilberto Bragatto visited the Institute of Agriculture and Tourism during the period from May 20 to June 19, 2019, in collaboration with the Center of Excellence for Biodiversity and Molecular Plant Breeding, within the project KK.01.1.1.01.0005 "Biodiversity and Molecular Plant Breeding", co-financed by EU funds. The cooperation was focused on the implementation of multivariate statistical analyses as part of the implementation of project elements dealing with the research on cabbage and onions. During his stay at the Institute, data sets (molecular and phenotypic) were analysed using specialised software and analytical techniques.

PROJECTS IN THE PERIOD SPANNING 2015-THE END OF 2019

In the last five years, a particularly large number of scientific research, development and other projects have been, or are being, implemented at the Institute. These projects include various competitive works funded by the European Union, where it is worth noting several EU Horizon 2020 projects and several research/development international projects from other prestigious programmes, such as Interreg, MED, etc. Moreover, the Institute has participated, and is participating, in the implementation of several projects financed by EU funds for regional and rural development, and it is worth noting that the Institute is a component of the national scientific *Center of Excellence for Biodiversity and Molecular Plant Breeding – Crop-BioDiv*, financed by the EU Regional Development Fund. Significant progress has been made in the past five years in terms of the number of submitted and funded national competitive projects, particularly those financed by the Croatian Science Foundation, which are of the highest importance. Numerous other projects in which the Institute's employees have participated, or are participating, have been implemented in cooperation with other institutions in the country and abroad. In addition, a large number of professional, technological and development projects have been implemented in cooperation with, and/or with funding from, business stakeholders and local and regional self-government units.

INTERNATIONAL PROJECTS

PROJECTS WITHIN THE HORIZON 2020 PROGRAM

- × Network for the exchange and transfer of innovative knowledge between European wine-growing regions to increase the productivity and sustainability of the sector (WINETWORK), project code: 652601, project consortium coordinator: Eric Serrano, Institut Francais de la Vigne et du Vin (France), project manager The Institute: Dr Marijan Bubola, 2015-2017.
- × Advanced solutions for assuring the overall authenticity and quality of olive oil - OLEUM, project code: 635690, project consortium coordinator: prof. Tullia Gallina Toschi, ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA (Italy), project leader at The Institute: Dr Karolina Brkić Bubola, 2016-2021.

PROJECTS WITHIN THE INTERREG MED PROGRAM

- × Coastal areas sustainable tourism water management in the Mediterranean (CASTWATER), project leader: Municipality of Rethymno (Greece), leader of the working group at the Institute: Dr Ana Težak Damijanić, 2016-2019.
- × Models of Integrated Tourism in the Mediterranean Plus (MITOMED +), project leader: Region of Tuscany (Italy), head of the working group at the Institute: Dr Kristina Brščić, 2017-2020.
- × Sustainable Tourism Strategies to Conserve and Valorise the Mediterranean Coastal and Maritime Natural Heritage (INHERIT), project leader: Peloponnese Region (Greece), head of the working group at the Institute: Dr Ana Težak Damijanić, 2018-2022.
- × Winter Islands Network for all year round Tourism ExpeRience in the Mediterranean - WINTER MED, project leader: ANCI Association of Tuscan Municipalities (Italy), head of the working group at the Institute: Dr Kristina Brščić, 2019-2022.

PROJECTS UNDER COST ACTION

- × EuroXanth: Integrating science on Xanthomonadaceae for integrated plant disease management in Europe, project leader: Institut de Recherche pour le Développement Montpellier (France), coordinator at the Institute: Dr Sara Godena, 2017-2021.
- × HUPLANT: Control of Human Pathogenic Micro-Organisms in Plant Production Systems, project leader: University of Wageningen (Netherlands), coordinator at the Institute: Dr Smiljana Goreta Ban, 2017-2021.
- × European network for environmental citizenship, project leader: Cyprus Center for Environmental Research and Education, Ministry of Education and Culture (Cyprus), coordinator at the Institute: Dr Barbara Sladonja, 2017-2021.

OTHER PROJECTS

- × Safeguarding of potato onion (*Allium cepa* L. aggregatum group) and garlic (*Allium sativum* L.) crop diversity in North Europe - Baltic region, project leader: Crop Research Institute, European Cooperative Program for Plant Genetic Resources (ECPGR), 2017-2019, coordinator at the Institute: Dr Smiljana Goreta Ban.

PROJECTS FINANCED BY EU FUNDS

- × Center of Excellence for Biodiversity and Molecular Plant Breeding CroP-BioDiv, leaders of working groups at the Institute: Dr Smiljana Goreta Ban, Dr Dean Ban, 2018-2023.
- × Sub-measure 10.2 Support for the conservation, sustainable use and development of genetic resources in agriculture, project leader Institute of Agriculture and Tourism, leader: Dr Smiljana Goreta Ban, 2019.
- × Agrobiodiversity - the basis for adaptation and mitigation of the consequences of climate change in agriculture, leader: Dr Smiljana Goreta Ban, 2019-2022.

NATIONAL PROJECTS

CROATIAN FOUNDATION FOR SCIENCE (HRZZ) – RESEARCH PROJECTS

- × Unravelling the varietal typicity of wines and olive oils from Croatian domestic varieties, principal investigator: Dr Igor Lukić, 2015-2018.
- × Plant breeding to secondary plant metabolites: application of mineral nutrients and elicitors to increase the concentration of phenol in olive leaves, leader: Dr Igor Pasković, 2017-2022.
- × Influence of different vinification technologies on the qualitative properties of wines from autochthonous Croatian varieties: the role of wine in human nutrition, leader: Dr Sanja Radeka, 2018-2022.
- × Biochar as an environmentally friendly and sustainable way of managing the vine diet in the context of climate change, leader: Dr Igor Palčić, 2019-2024.
- × Tomato vaccination alleviates biotic stress caused by thyroid moths, project leader (leader): Institute for Adriatic Cultures and Karst Reclamation (Dr Katja Žanić), associate at the Institute: Dr Karolina Brkić Bubola, 2015-2018.
- × Genetic improvement and optimization of wheat yield potential, project leader (leader): Agricultural Institute Osijek (Dr Dario Novoselović), Associate at the Institute: Dr Marko Černe, Zoran Užića B.Sc., 2017-2020.
- × Isolation and encapsulation of bioactive molecules of wild and cultivated nettle and fennel and effects on the physiology of the organism, project leader (leader): University of Zagreb, Faculty of Food Technology and Biotechnology (Prof Dr Verica-Dragović-Uzelac), associate at the Institute: Dr Igor Palčić, 2018-2022.

PROJECTS OF THE FUND FOR ENVIRONMENTAL PROTECTION AND ENERGY EFFICIENCY AND HRZZ

- × Reduction of greenhouse gas emissions through the use of municipal and agricultural waste in plant production, leader: Dr Dean Ban, 2017-2019.
- × Assessment of the adaptability of the Croatian maize and soybean assortment in the function of breeding for drought tolerance, project leader (leader): University of Zagreb, Faculty of Agriculture (Prof. Ivan Pejić, PhD), associate at the Institute: Dr Sara Godena, 2017-2019.
- × Viticulture and climate change in Croatia, project leader (leader): Department of Geophysics, Faculty of Science, University of Zagreb (assistant professor Dr Maja Telišman Prtenjak), associates at the Institute as a co-operator: Tomislav Plavša, M.Sc., 2017-2019.

CROATIAN FOUNDATION FOR SCIENCE (HRZZ) – CAREER DEVELOPMENT PROJECTS FOR YOUNG DOCTORS OF SCIENCE

- × Young researchers' career development project - training new doctoral students, leader: Dr Igor Lukić, 2016-2020.
- × Young researchers' career development project - training new doctoral students, leader: Dr Dean Ban, 2018-2022.
- × Young researchers' career development project - training new doctoral students, (DOK-2018-01-4693), leader: Dr Karolina Brkić Bubola, 2018-2022.
- × Young researchers' career development project - training new doctoral students, (DOK-2018-09-2293), leader: Dr Karolina Brkić Bubola, 2018-2022.
- × Young researchers' career development project - training new doctoral students, leader: Dr Igor Pasković, 2018-2022.
- × Young researchers' career development project - training new doctoral students, leader: Dr Sanja Radeka, 2018-2022.

BILATERAL PROJECTS

- × Ecological approach to olive protection using olive consociation - Dalmatian pyrethrum, Scientific and technological cooperation with Montenegro, leader: Dr Dean Ban, 2015-2016.
- × Adaptation of ampelotechnical interventions in the conditions of global warming with the aim of producing balanced wines of high quality, scientific and technological cooperation with Hungary, project manager at the Institute: Dr Marijan Bubola, 2017-2019.
- × Recycling of municipal sludge through its application in agriculture, Scientific and technological cooperation with Slovenia, project leader at the Institute: Dr Dean Ban, 2018-2019.
- × Extracts of invasive plant species as a natural alternative to synthetic pesticides, scientific and technological cooperation with Slovenia, leader: Dr Barbara Sladonja, 2018-2019.

VIP PROJECTS

- × Aqueous nettle extract - myth or reality, leader: Dr Smiljana Goreta Ban, 2015-2017.
- × Database of microsatellite profiles of Croatian olive varieties, leader: Dr Danijela Poljuha, 2015-2017.
- × Causes of olive drying syndrome in sustainable olive growing, leader: Dr Sara Godena, 2016-2018.
- × Optimization of fertilization in the cultivation of industrial tomatoes using mycorrhizal fungi, leader: Dr Igor Pasković, 2016-2018.
- × Development of bread and durum wheat germplasm for family farms in the Republic of Croatia, project leader (leader): Agricultural Institute Osijek (Dr Dario Novoselović), associates: Dr Karolina Brkić Bubola, Dr Milan Oplanić, 2016-2018.

ADRIAS FOUNDATION

- × Social Distance and Polychronicity Index of Young Hotel Workers, project leader: Dr Marinela Dropulić Ružić, 2015-2016.
- × Research of the causes of olive tree drying syndrome - a new and poorly researched phenomenon in olive growing, leader: Dr Sara Godena, 2016-2018.

OTHER PROJECTS FINANCED AT NATIONAL, REGIONAL AND LOCAL LEVEL

- × Bioactive and volatile substances of virgin olive oils in processing and finishing, University of Rijeka, associate: Dr Karolina Brkić Bubola, 2015-2018.
- × Performing sensory analyzes of olive oil for the purpose of checking the market quality of products, and as part of exhibitions and competitions, the City of Vodnjan, Agroudruha Fažana, Association Agro Opatija, head of the Institute: Dr Karolina Brkić Bubola, 2015-2020.
- × Preparation of documentation for the protected designation of origin for Istrian honey, Istria County, co-financing of the Ministry of Agriculture and Istria County, Administrative Department

- for Agriculture, Forestry, Hunting, Fisheries and Water Management, Head: Dr Kristina Brščić, 2015-2017.
- × National program for conservation and sustainable use of plant genetic resources for food and agriculture, Ministry of Agriculture of the Republic of Croatia, coordinators at the Institute: Dr Smiljana Goreta Ban, Dr Marin Krapac, Dr Marijan Bubola, 2015-2020.
 - × Domestic web market, Istria County, City of Pula, City of Poreč, City of Buje, City of Buzet, Municipality of Tar-Vabriga, Municipality of Vrsar, Municipality of Funtana, Municipality of Vižinada, leader: Dr Milan Oplanić, 2015-2019.
 - × Economic program for the use of state-owned land for agricultural production, City of Crikvenica, head: Dr Milan Oplanić, 2015.
 - × Development of hunting management plans and plans, Hunting Association from the area of Istria County, leader: Dr Milan Oplanić, 2015-2016.
 - × Project of inventory and monitoring of invasive species in Poreč and its surroundings, City of Poreč, leader: Dr Barbara Sladonja, 2015.
 - × Study Economic justification of the plant for processing honey and bee products, Istria County, leader: Dr Milan Oplanić, 2016.
 - × Determination of antioxidant capacity of food and products, Istria County Tourist Board, Dr Danijela Poljuha, 2016-2017.
 - × Creation of tetraploid of Dalmatian pyrethrum (*Tanacetum cinerariifolium*) with doubled number of chromosomes in order to increase the content of the natural insecticide pyrethrin, PoC Program, head of the Institute: Dr Danijela Poljuha, 2016-2017.
 - × Strategic Development Plan of the Municipality of Svetvinčenat 2016-2021, Municipality of Svetvinčenat, leader: Dr Darko Saftić, 2016.
 - × Inventory and monitoring of two invasive species in Poreč and its surroundings, City of Poreč, leader: Dr Barbara Sladonja, 2016.
 - × Consulting services for application and coordination of projects for beneficiaries of the measure 6 Development of agricultural holdings and business, Rural Development Program 2014-2020, leader: Ana Čehić, mag. ing. agr., 2017-2021.
 - × Introduction of fennel cultivars and improvement of cultivation technology in the area of Istria County, Istria County, leader: Dr Smiljana Goreta Ban, 2017.
 - × Implementation of research for the project "Istria eco region", AZRRI d.o.o., Pazin, leader: Dr Milan Oplanić, 2017.
 - × Economic valorization of olive variety Porečka rosulja, Association of farmers "Agro Poreč", leader: Dr Danijela Poljuha, 2017.
 - × Virtual Center for Monitoring and Control of Invasive Species, Financing programs and projects of civil society organizations in the field of: civil society development, preschool education, culture, technical culture, health, sports and social welfare of the city of Porec, leader: Dr Barbara Sladonja, 2017.
 - × Virtual center for monitoring and control of invasive species, City of Poreč, leader: Dr Barbara Sladonja, 2017.
 - × Volunteering 2GO !, European Social Fund and the Office for Non-Governmental Organizations of the Government of the Republic of Croatia, coordinator at the Institute: Dr Barbara Sladonja, 2017-2018.
 - × Market analysis study for the cultivation and processing of medicinal and aromatic (spice) plants in the County of Istria, County of Istria, leader: Dr Ana Težak Damijanić, 2017.
 - × Brgijski kapuz, Center for Agriculture and Rural Development of PGC, leader: Dr Smiljana Goreta Ban, 2018.
 - × Istrian garlic - morphological, phenotypic and biochemical profile, Istria County, leader: Dr Smiljana Goreta Ban, 2018.
 - × Testing the effectiveness of a preparation (liquid suspension) based on kaolin in the control of olive fly (*Bactrocera oleae* Gmelin.), Bifix d.o.o., Buje, leader: Dr Sara Godena, 2018-2019.
 - × Consulting services for the Cluster of Istrian Olive Growers, Cluster of Istrian Olive Growers, leader: Dr Milan Oplanić, 2018.
 - × Study Basis for the development of agricultural production in the area of the Dubašnica field, Municipality of Malinska-Dubašnica, leader: Dr Milan Oplanić, 2018.
 - × Puddle mapping project in the area of the city of Rovinj, City of Rovinj, leader: Dr Barbara Sladonja, 2018.

- × Implementation of monitoring of the invasive species *Ambrosia artemisiifolia* (Ambrosia), City of Poreč, leader: Dr Barbara Sladonja, 2018
- × Implementation of national monitoring of invasive mosquito species, City of Poreč, leader: Dr Barbara Sladonja, 2018.
- × Chemical and sensory analysis of olive oils within the project of the University of Zadar - "SAN", European Regional Development Fund, IRI - research, development and innovation, project manager at the Institute: Dr Karolina Brkić Bubola, 2019-2020.
- × Development of the Operational Plan for the Development of Cyclotourism of the County of Istria for the period from 2019 to 2025, co-financing by the Ministry of Tourism and the County of Istria, Administrative Department for Tourism, head: Dr Kristina Brščić, 2018-2019.
- × Preparation of the study Sustainable Tourism in the County of Istria - Analysis of the Situation and Perceptions of Stakeholders, County of Istria, Administrative Department for Tourism, leader: Dr Kristina Brščić, 2019.
- × Preparation of the study Quality management of cyclotourism development in the County of Istria, co-financed by the Ministry of Tourism and the County of Istria, Administrative Department for Tourism, head: Dr Kristina Brščić, 2019-2020.
- × Project of selection and maintenance of the certified mother plantation of Muscat White Momjan, Association Vino Momilium, leader: Dr Marijan Bubola, 2019-2021.
- × Increasing the profitability of olive production through the diversification of agricultural holdings, the Budget of the Istrian County for 2019 - Development and research programs and projects of budget users of other budgets, leader: Ana Čehić, mag. ing. agr., 2019.
- × Brgijski kapuz - brand, Center for Agriculture and Rural Development of PGC, leader: Dr Smiljana Goreta Ban, 2019.
- × Brgijski kupus - variety maintenance, Center for Agriculture and Rural Development of PGC, leader: Dr Smiljana Goreta Ban, 2019.
- × Study of the use of olive pomace and grape pomace generated in the Istrian County, Istria County - Administrative Department for Agriculture, Forestry, Hunting, Fisheries and Water Management; leader: Dr Smiljana Goreta Ban, 2019.
- × Istrian garlic - stability of morphological properties and biochemical profile, Istria County; leader: Dr Smiljana Goreta Ban, 2019.
- × Istrian garlic - stability of morphological properties and biochemical profile, Istria County, leader: Dr Smiljana Goreta Ban, 2019.
- × Programs for disposal of agricultural land owned by the Republic of Croatia, City of Vodnjan, City of Buzet, City of Novigrad, Municipality of Vžinada, Municipality of Bale, Municipality of Svetvinčenat, Municipality of Fažana, Municipality of Sveti Lovreč Pazenatički, Municipality of Tinjan, Municipality of Cerovlje, Municipality of Motovun, Municipality of Gračišće, Municipality of Pićan, Municipality of Mošćenička Draga, leader: Dr Milan Oplanić, 2018-2020.
- × Studies Analysis of granting a concession on a maritime domain, City of Poreč, leader: Dr Milan Oplanić, 2019
- × Enroll in agriculture school - produce food and take care of the environment, Grad Poreč, leader: Dr Milan Oplanić, 2019-2020.
- × Research of ponds in the area of Rovinj, City of Rovinj, project coordinator at the Institute: Dr Barbara Sladonja, 2019.
- × Mapping of invasive flora in the Republic of Croatia, OIKON d.o.o. Institute of Applied Ecology, associate at the Institute: Dr Barbara Sladonja, 2019-2020.
- × Monitoring of hornets in the area of Poreč and Buje in 2019 with the aim of early detection of invasive species, Asian hornet *Vespa velutina*, Istria County, leader: Dr Barbara Sladonja, 2019.

EMPLOYEES IN THE PERIOD FROM JANUARY 1, 2015 TO DECEMBER 31, 2019



Employees of the Institute – September 2020
Source: IPTPO

LIST OF CURRENT EMPLOYEES ON DECEMBER 31, 2019 ADMINISTRATION

- × Dr Dean Ban, scientific advisor, director of the Institute (elected to the title of permanent scientific advisor), employed since November 1, 2001.
- × MSc Ninoslav Luk, B.Sc. oec., senior expert advisor for business relations, employed since February 1, 2008.
- × Ljiljana Kajić, B.Sc. iur., Head of the Department of General, Legal and Personnel Affairs, employed since May 1, 2000.
- × Suzana Gržević-Baćac, administrative clerk, employed since October 29, 1986.
- × Adriano Fabreti, electrical engineer, system engineer, employed since April 21, 1998.
- × Denis Peršurić, caretaker December 2, 2002 until January 31, 2020, employed from December 2, 2002.
- × Oriana Legović, head of accounting, employed since November 12, 1987.
- × Kristina Matković, cleaning lady, employed since August 16, 2012.
- × Ingrid Peršurić, cleaner, employed since October 1, 2001.

DEPARTMENT OF AGRICULTURE AND FOOD

- × Dr Igor Lukić, senior research associate, head of the Department, employed since March 1, 2001.
- × Dr Smiljana Goreta Ban, scientific advisor (elected to the title of permanent scientific advisor), employed since April 1, 2014.
- × Dr Barbara Sladonja, scientific advisor (elected to the title of permanent scientific advisor), employed since May 18, 1998.

- × Dr Sanja Radeka, senior research associate (elected scientific advisor), employed since September 1, 1995.
- × Dr Karolina Brkić Bubola, research associate (elected scientific advisor), employed since March 1, 2005.
- × Dr Marijan Bubola, research associate (elected senior research associate), employed since December 1, 2004.
- × Dr Marko Černe, research associate, employed since June 27, 2016.
- × Dr Sara Godena, research associate, employed since June 4, 2007.
- × Dr Marin Krapac, research associate, employed since November 1, 2005.
- × Dr Nikola Major, research associate, employed since June 1, 2017.
- × Dr Igor Pasković, research associate (elected senior research associate), employed since June 27, 2016.
- × Dr Igor Palčić, research associate, employed since July 16, 2016.
- × Dr Danijela Poljuha, research associate (elected scientific advisor), employed from February 1, 2003 until December 31, 2009, from September 9, 2013.
- × Dr Mario Franić, postdoctoral student, employed since June 8, 2018 to April 30, 2019, from November 11, 2019.
- × Dr Josipa Perković, postdoctoral student (elected research associate), employed since July 13, 2009 to May 6, 2019, and from June 18, 2019 as a postdoctoral fellow.
- × Iva Bažon, mag.ing.agr., assistant, employed since September 20, 2018.
- × Kristina Grozić, mag.ing.agr., assistant, employed from April 1, 2015 to September 30, 2017; and from December 20, 2018. Assistant.
- × Ivana Horvat, mag.ing.bioproc., assistant, employed since September 16, 2016.
- × Jana Klanjac, M.Sc. agr., assistant, employed since April 10, 2017 to July 9, 2017, and from January 17, 2018. Assistant.
- × Dora Klisović, mag.med.chem., assistant, employed since December 20, 2018.
- × Anja Novoselić, mag.ing.agr., assistant, employed since February 12, 2018, and since August 1, 2018. Assistant.
- × Bernard Prekalj, mag.img.agr., assistant, employed since March 15, 2018.
- × Sara Rossi, mag.ing.agr., assistant, employed since January 9, 2019.
- × Tomislav Plavša, M.Sc., senior expert associate in the science system, employed since September 9, 2003.
- × Marina Lukić, M.Sc., expert associate in the system of science, employed since December 4, 2004.
- × Zoran Užića, M.Sc., expert associate in the science system, employed since September 1, 2008.
- × Mirela Uzelac, expert associate on the project, employed since September 10, 2018 to December 31, 2018, from January 24, 2019.
- × Robi Damijanić, wine engineer, senior technician, employed since February 14, 2005.
- × Tina Jerman, mag.ing.agr., senior technician, employed since December 1, 2016.
- × Irena Delač, technical associate, employed since February 11, 1997.
- × Živka Kovačić, technical associate, employed since September 16, 1985.
- × Marica Stranić, technical associate, employed since November 21, 1986.
- × Klara Pilar, technical associate, employed since November 3, 1986.

DEPARTMENT OF ECONOMICS AND AGRICULTURAL DEVELOPMENT

- × Dr Milan Oplanić, scientific advisor, head of the Department, employed since September 27, 1994.
- × Dr Anita Silvana Ilak Peršurić, senior research associate (elected scientific advisor), employed since May 5, 1997.
- × Dr Ana Težak Damijanić, research associate, employed since February 4, 2008.
- × Martina Begić, mag.oec., expert associate on projects, employed since December 17, 2019.
- × Ana Čehić, mag.ing.agr., expert associate on projects, employed since March 23, 2016 to July 22, 2016, from February 15, 2017 to June 14, 2019, from August 18, 2016 to December 17, 2016.
- × Marija Pičuljan, mag.oec., expert associate on the EU project, employed since September 21, 2017.

- × Danko Cvitan, bacc.ing.agr., senior technician, employed since June 1, 2017.

DEPARTMENT OF TOURISM

- × Dr Kristina Brščić, senior research associate, head of the Department (elected scientific advisor), employed since May 15, 2000.
- × Dr Zdravko Šergo, scientific advisor, employed since August 2, 1989.
- × Tina Šugar, M.Sc. agr., assistant, employed since April 10, 2017, and since January 15, 2018. Assistant.
- × Katarina Lovrečić, mag.oec., expert associate, employed since September 3, 2018.

EXPERIMENTAL AGRICULTURAL ESTATE

- × Elvino Šetić, M.Sc. agr., manager of the Estate, employed since September 1, 1995.
- × Alen Janko, technical associate in agriculture, employed since November 21, 2019.
- × Rudi Mihatović, technical associate for mechanization, employed since January 20, 1998.
- × Danijel Sedmak, technical associate in agriculture, employed since December 1, 2011.
- × Petar Žiković, technical associate in agriculture, employed since March 13, 2018.

LIST OF EMPLOYEES WHO STOPPED WORKING AT THE INSTITUTE IN THE PERIOD FROM JANUARY 1, 2015 TO DECEMBER 31, 2019

- × Đordano Peršurić (10.4.1984-10.4.2015)
- × Irena Mofardin (4.11.2014-6.7.2015)
- × Danijela Janjanin (1.6.2009-6.11.2015)
- × Pavlo Ružić (1.2.1995-do 31.12.2015)
- × Andrea Zohil (16.9.2016-15.12.2016)
- × Vesna Novoselnik (11.4.2016-17.4.2017)
- × Ines Kralj (27.7.2016-26.7.2017)
- × Lindi Dario (14.3.1988-6.4.2017)
- × Alisa Kotorić Butković (18.4.2017-31.7.2017)
- × Klara Trošt Lesić (1.1.2008-21.8.2017)
- × Darko Saftić (4.11.2007-15.10.2017)
- × Marinela Dropulić Ružić (4.11.2007-31.10.2017)
- × Ivan Kršanović (3.11.2008-31.12.2017)
- × Nikolina Jedrejčić (17.9.2007-14.2.2018)
- × Antonio Šegon (1.8.2014-21.6.2018)
- × Denis Peršurić (2.12.2002-31.1.2020)
- × Ivana Vižintin Saftić (15.9.2014-29.2.2020)
- × Alex Ristić (22.7.2019-do 24.7.2019)

LIST OF PERSONS IN PROFESSIONAL TRAINING WITHOUT ESTABLISHMENT OF EMPLOYMENT IN THE PERIOD FROM JANUARY 1, 2015 TO DECEMBER 31, 2019

- × Marta Sušek (26.05.2014-25.05.2015)
- × Sandra Vladišković (04.11.2014-03.11.2015)
- × Kristina Diklić (05.11.2014-31.03.2015)
- × Ines Kralj (09.03.2015-08.03.2016)

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- × Tina Šugar (20.03.2015-19.03.2016)
 - × Ana Čehić (23.03.2015-22.03.2016)
 - × Ivana Horvat (16.09.2015-15.9.2016)
 - × Andrea Zohil (16.09.2015-15.9.2016)
 - × Tina Jerman (01.12.2015-30.11.2016)
 - × Jana Klanjac (03.12.2015-2.12.2016)
 - × Petra Šekerija (09.12.2015-9.9.2016)
 - × Danko Cvitan (14.9.2016-31.5.2017)
 - × Anja Novoselić (18.11.2016-17.11.2017)
 - × Marta Ursić (21.11.2016-20.11.2017)
 - × Kristina Roša (21.11.2016-5.5.2017)
 - × Marina Svorcina (4.4.2017-3.4.2018)
 - × Ivana Vujnović (24.11.2017-31.8.2018)
 - × Martina Begić (17.12.2018-16.12.2019)

APPENDIX: CHANGES IN THE NAMES OF INSTITUTIONS AND LIST OF DIRECTORS OF INSTITUTIONS

19 th century	1875 – 1887	Provincial Wine and Fruit Station
	1887 – 1937	Provincial Agricultural Institute - Experimental Station
20 th century	1937 – 1945	Agricultural Technical Institute
	1945 – 1963	Secondary Agricultural School – Agricultural Technicum
	1961 – 1966	Higher Agricultural School
	1966 – 1970	Secondary Agricultural School Poreč
	1968 – 1974	School Center for Vocational Education*
	1974 – 1977	Working Organization (RO) School Center for Vocational Education
	1978 – 1985	Center for Oriented Education (CUO)
	1985 – 1989	"Mate Balota" R.O. for secondary vocational education and agricultural sciences
	1989 –	Institute of Agriculture and Tourism
21 st century		

Changes in the names of institutions

Source: State Archives in Pazin, Secondary School Mate Balota of Poreč, Institute of Agriculture and Tourism, Report of Secondary Agricultural School and Poreč Station 1945-1955.

Note:

* In 1971, the Secondary Agricultural School merged with the School Center for Vocational Education.

19 th century	1875. – 1876.	Emil von Mayerbach
	1876. – 1879.	Giuseppe Bauer
	1879. – 1881.	Luigi Vascon
	1881. – 1882.	Riccardo Callegari
	1882. – 1898.	Carlo Hugues
20 th century	1899. – 1933.	Giovanni Battista Cucovich
	1933. – 1943.*	Eugenio Benedini
	1945. – 1946.	Viktor Vitolović
	1946. – 1947.	Josip Mišon
	1947. – 1949.	Ernest Venerus
	1949. – 1954.	Rudolf Paškvan
	1954. – 1956.	Kazimir Štiglić
	1956. – 1957.	Juraj Hraka
	1957. – 1959.	Bogdan Šestan
	1960. – 1963.	Božidar Kadić
	1963. – 1966.	Josip Dekanić
	1966.	Viktor Vitolović (u osnivanju)
	1966. – 1969.	Josip Dekanić
	1969. – 1970.	Anton Semion
	1968. – 1983.	Marijan Vukušić**
	1983. – 1996.	Aldo Milotić
21 st century	1996. – 2012.	Đordano Peršurić
	2012. –	Dean Ban

List of institutions' leaders

Source: State Archives in Pazin, Mate Balota High School Poreč, Institute of Agriculture and Tourism, Report of the High School of Agriculture and Poreč Station 1945-1955.

Remark:

* In the documentation of Mate Balota High School Poreč during the duration of the Second World War until the capitulation of Italy in 1943, the signature of Eugenio Benedini appeared on several occasions, although the documentation was also signed by other persons. After the capitulation of Italy in September 1943, it is not clear from the documentation for the period 1943-1945 who was the leader because there are no signatures in the documentation.

** In 1971, the Agricultural High School merged with the School Center for Vocational Education. The head of the Center was Marijan Vukušić, while Anton Semion was the head of the Secondary Agricultural School until the moment of its annexation.

LITERATURE

Archive, Secondary School Mate Balota of Poreč

Della Giunta provinciale dell'Istria, 1876, Relazione della Giunta provinciale sulla istituzione della stazione enologica provinciale, son annesavi sezione pomologica, Državni arhiv u Pazinu: Izvještaji o radu u periodicu 1876-1903.

Report of the Agricultural High School and Poreč Station 1945-1955, Štiglić, M. and Mikecin, V. (eds.), Poreč Secondary Agricultural School, Poreč.

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PHOTOS

Archives of the Institute of Agriculture and Tourism:

- Details of the laboratory cabinet – Period of Italian Administration
- Tasting wine Hall – Period of Italian Administration
- Property to support students – mid-20th century
- Property from the beginning of the 20th century
- Employees and equipment of Institute in the late 1990s and early 2000s
- Chemical laboratory in the early 20th century
- Diplomas and medals as a proof of continuity of wine quality
- Laboratory in support of science and education – 2nd half of the 20th century
- Laboratory cabinet at the beginning of the 20th century
- Equipment and space for grape processing from the beginning of the 20th century
- Practical work – mid-20th century
- Recognition for participation in the Poreč Youth Festival and honorary diplomas from the 1987 wine exhibition of Istria and Croatian seaside, 1986
- Agricultural Technical Institute (1937-1943)
- Decision on the constitution of OUR Agricultural Science Center
- Guidelines for the needs of wine consumers in which advice is given on how to store and drink wine
- Secondary Agricultural School – Agricultural Technicum
- The building of the Provincial Wine and Fruit Station at the beginning of the 20th century

State Archives in Pazin:

- Documentation of Agricultural School Poreč in the late 1930s and early 1940s (HR-DAPA-990)
- Reports on the work of the Station in the period spanning 1900-1903
- Farm development plan from 1875

Center for Historical Research, Rovinj:

- Agricultural estate 1954.
- Wine Cellar from 1954, ARCHIVIO CRS 855-F-1986

IPTPO

- The sixth International Symposium on Figs
- Genetic laboratory
- Prominent indigenous grape varieties
- Collection plantation of autochthonous sorts of vines
- Olive collection plantation
- Collection fig plantation
- Phenotyping laboratory
- Laboratory for Soil, Plant and Water
- Plant Protection Laboratory
- Mobility of Institute employees
- Trial farm to support modern agricultural research
- Popularisation of science – workshops for children and youth
- Popularisation of science – printed matter
- Popularisation of science towards the professional public
- Vegetable growing at the Institute
- Food Biotechnology Laboratory and Panel for Sensory Analysis of Virgin Olive Oil
- Wine Laboratory and Commission for Organoleptic (Sensory) Evaluation of Wine and Spirits
- Wine cellar "Minivinification"
- Genetic Laboratory employees – September 2020.
- Employees of the Institute – September 2020
- Employees of the Phenotyping Laboratory – September 2020
- Employees of the Laboratory for Soil, Plant and Water – September 2020
- Employees of the Laboratory for Plant Protection – September 2020
- Employees of the Experimental Farm – September 2020
- Employees of the Food Biotechnology Laboratory – September 2020
- Employees of the Management Board – September 2020
- Wine Laboratory employees – September 2020
- Wine Cellar employees – September 2020
- Employees of the Institute for Economics and Development of Agriculture – September 2020
- Employees of the Department of Agriculture and Food – September 2020
- Employees of the Institute of Tourism – September 2020
- Institute for Economics and Development of Agriculture
- Department of Agriculture and Food
- Department of Tourism

Photos from own sources:

- Bažon, Iva
- Brkić Bubola, Karolina
- Brščić, Kristina
- Bubola, Marijan
- Černe, Marko
- Fabreti, Adriano
- Godena, Sara
- Grozić, Kristina
- Horvat, Ivana
- Ilak Peršurić, Anita Silvana
- Išić, Nina
- Krapac, Marin
- Lukić, Igor
- Lukić, Marina
- Major, Nikola

- 
- Oplanić, Milan
 - Palčić, Igor
 - Perković, Josipa
 - Poljuha, Danijela
 - Prekalj, Bernard
 - Radeka, Sanja
 - Rossi, Sara
 - Sladonja, Barbara
 - Šugar, Tina

Newspapers, magazines and other publications:

- Brochure: Upiši poljoprivrednu
- Glas Istre
- Gospodarski list
- Maslinar
- Maslina

Report of the Secondary Agricultural School and Station Poreč:

- Chemical Laboratory of the 1950s