

# IMPLEMENTATION OF THE OIE RECOMMENDATIONS IN UKRAINIAN VETERINARY EDUCATION

M. Rublenko<sup>(1)</sup>, C. Prouillac<sup>(2)</sup>, N. Vovkotrub<sup>(1)</sup>, K. Portier<sup>(2)</sup>, T. Tsarenko<sup>(1)</sup>, Z. Djelouadji<sup>(2)</sup>, I. Rublenko<sup>(1)</sup>, A. Gonthier<sup>(2)</sup>, O. Khitska<sup>(1)</sup>, M. Pépin<sup>(2)</sup>, V. Shaganenko<sup>(1)</sup>, S. Buff<sup>(2)</sup>, L. Korniienko<sup>(1)</sup>, C. Becker<sup>(2)</sup>, V. Andriyets<sup>(1)</sup>, P. Bruyère<sup>(2)</sup>, O. Bonkovskiy<sup>(1)</sup>, S. Martinot<sup>(2)</sup>, A. Danylenko<sup>(1)</sup>, M. Artois<sup>(2)</sup> & A. Leblond<sup>(2)\*</sup>

(1) Bila Tserkva National Agrarian University, Soborna Square 8/1, Bila Tserkva, Ukraine

(2) Université de Lyon, VetAgro Sup, 69280, Marcy l'Etoile, France, [agnes.leblond@vetagro-sup.fr](mailto:agnes.leblond@vetagro-sup.fr)

## Summary

Improving the quality of education for veterinary practitioners to adequately meet market demand is an urgent problem for not only the Ukrainian national education system but is also an issue of global concern. The provision of high-quality veterinary education is critical to ensuring that potential veterinarians are equipped with the necessary knowledge to allow for efficient performance and to provide effective support to Veterinary Services. One way to improve the quality of veterinary education is to modernise the content of educational programs. Institutions can do this by optimising educational processes and emphasizing the principles of adaptability and competencies of graduates of veterinary education institutions.

The integration of Ukraine into the European community and global trade needs stipulate adherence to standards of higher education, including in the field of veterinary medicine. According to the OIE recommendations, all veterinarians, regardless of the direction of their professional activities after graduation, are responsible for the health of animals, their welfare and control of food safety. Thus, modern veterinary education should ensure an appropriate level of any graduate's "Day 1 Competencies".

This article describes a partnership in the field of veterinary education between the Veterinary Faculty of Lyon, France (VetAgro Sup) and Bila Tserkva National Agrarian University (BTNAU) of Ukraine, through a twinning project funded by the World Organisation for Animal Health (OIE). The objective of the project was to introduce educational standards in accordance with "OIE recommendations on the Competencies of Graduating Veterinarians" ('Day 1 Competencies') at the Ukrainian partner's Faculty of Veterinary Medicine to assure National Veterinary Services of quality.

**Key words:** veterinary education, Day 1 competencies, curriculum, OIE recommendations, twinning project.

## Introduction

The geographical position of Ukraine in Eastern Europe, bordering seven countries and crossed by three routes of migrating birds, carries risk of emerging and zoonotic diseases in Ukraine and neighbouring countries. Questions of international trade have become more important to the national Veterinary and Food Services due to Ukraine's intention to further expand its reach into the global market. The emergence of African Swine Fever during recent years serves as an example of

the need for Veterinary Services in Ukraine to be prepared to secure the epidemiological situation to protect other European countries in the event of a disease outbreak.

This context requires increased capacity to respond to the challenges facing National Veterinary Services, and to some extent requires a consistent understanding of biological and ecological control training and risk management. In turn, veterinary graduates should have fundamental competencies to assure reliable National Veterinary Services activity. At the same time, the increased quantity of the veterinary education establishments (VEE) in Ukraine, frequently with a broad autonomy and a strong commitment to regional educational, social and economic traditions, can weaken the performance of the local Veterinary Services and practitioners. Moreover, the veterinary labour market requires that professional and advanced competencies are steadily increased. All these challenges highlight the need to modernize veterinary education in Ukraine.

Over the last 10 years, the OIE has taken important actions to harmonize and improve veterinary education curriculum around the world. The OIE has published two guides: “OIE Recommendations on the Competencies of Graduating Veterinarians (Day 1 graduates) to Assure National Veterinary Services of Quality” [1] and “OIE Guidelines for a Veterinary Education Core Curriculum” [2]. The OIE has supported several twinning programs between VEEs to help institutions implement these recommendations. To this effect, the OIE has published a guide on its Twinning Projects, the “Guide to Veterinary Education Twinning Projects” [3]. Recommendations are regularly updated through OIE Global Conferences on Veterinary Education [4, 5, 6]. Twinning projects are always implemented taking into account national contexts for defining the priorities of veterinary curriculum.

### **Background on the VetAgro Sup – BTNAU Twinning Project**

One such example of an OIE veterinary education twinning project is the partnership between the Veterinary Faculty of Lyon, France (VetAgro Sup) and Bila Tserkva National Agrarian University (BTNAU), undertaken to better align the veterinary curriculum of BTNAU with OIE Day 1 competencies (fig.1). Within this framework, the contract between the OIE, VetAgro Sup (the “parent establishment”) and BTNAU (the “beneficiary establishment”) was signed in May 2015 and concluded in December 2017.

The two establishments have a long history of collaboration, dating back to 1998. As part of the Coopération & Echanges Vétérinaires Est-Ouest (CEVEO) program (1998–2004, 2012) there were director and teacher visits between the countries, as well as teacher and student internships in Lyon. There were also projects executed within the European Community’s programs “Trans-European Mobility Program for University Studies” (TEMPUS), “Technical Assistance for the Commonwealth of Independent States” (TACIS) and TEMPUS TACIS “Susfood” (“Management of a stable chain of food production in Ukraine”, 2001–2004). A memorandum for cooperation was finally signed in 2014 to govern the project; this was supported by the OIE.

The veterinary education system in Ukraine is composed of 12 faculties in different cities. The oldest faculties are found in Lviv, Kyiv, Kharkiv and Bila Tserkva. The other faculties were founded after 1980 based on regional needs. Until recently, veterinary training in Ukraine consisted of 4 years of bachelor’s degree courses (240 European Credits Transfer System ECTS) and 2 years of master’s degree courses (120 ECTS credits). However, following a new law on High Education adopted in Ukraine in 2014, the veterinary faculties changed their course requirements. The diploma for veterinary medicine evolved to one unique master’s degree (360 ECTS credits). At BTNAU there are 1200 students and 91 teachers. Among these, 75 have a diploma in Veterinary Education and 72 have a PhD or a Habilitation degree. The students are from different regions of Ukraine, including regions where the other veterinary faculties are located (fig.2). BTNAU graduates traditionally differ from graduates of other faculties in their practical training, because BTNAU has its own educational and research farm, and because the faculty is located close to the practical training bases.

Within the framework of the twinning project, preparation and realization of work involved many BTNAU and VetAgro Sup teachers. Over the course of the pre-project, a **total of 371 mission days were undertaken** by different faculty. First, a self-analysis and assessment of the veterinary education system was undertaken by BTNAU, followed by a parallel analysis of the veterinary curriculum in BTNAU and VetAgro Sup compared to the OIE recommendations. Next, the tasks were defined within disciplines or courses, considering human resources and facilities for modernization in accordance with the OIE requirements.

In the meantime, two missions from VetAgro Sup to BTNAU allowed French experts to learn about the local context before defining the activities of the twinning project. The main reservations of the French experts related to the regulation of veterinary products and the control of foods. At the same time, the reform of the state Veterinary Service was taking place. In return, BTNAU teachers visited VetAgro Sup to learn about its training methods, premises and equipment necessary for clinical training, operation of veterinary services in France and their coordination with the OIE.

The first year of the twinning project resulted in (1) identification of teachers to be involved for each discipline addressed in the activities, background knowledge, equipment and working conditions, (2) characterization of the curriculum, (3) identification of trainers' needs, (4) prioritization of the tasks. At this stage, a strong collaboration and good working conditions were in place, including the possibility for direct exchange between teachers of each discipline thanks to the efforts made by BTNAU's teachers to improve their spoken English.

The content and form of BTNAU's curriculum was deemed broadly adequate. It was necessary to reduce the volume of traditional disciplines to allow for the emergence of others, i.e. molecular biology or quantitative epidemiology. The comparative analysis of the BTNAU veterinary curriculum and OIE recommendations led to the following proposals for work during the last 18 months of the pre-project twinning period: (1) Epidemiology: biomathematics, quantitative epidemiology, and risk analysis; (2) Quality Hygiene, and Food Safety: regulatory module, risk analysis module; (3) Microbiology and Immunology: biosafety, molecular diagnostics, preventive medicine, surveillance program for antimicrobial resistance; (4) Pharmacology-toxicology: antimicrobial resistance, management of drug residues, diagnosis of mycotoxicoses, management of toxic residues and clinical toxicology; (5) Clinical training: anesthesiology and welfare, herd health management, infectious pathology of livestock, necropsy.

These tasks were accomplished through the training of BTNAU's teachers in collaboration with the teachers from VetAgro Sup. This collaboration allowed for the creation or modernization of educational resources, which also led to infrastructure changes and facility upgrades. Over the implementation period, missions were dedicated to the training of teachers from BTNAU and identification of needs for capacity building in order to successfully implement new curriculum. One teacher attended the European Congress in Anesthesiology (2016); another participated in the OIE training session on animal welfare during long-haul transportation (Astana, Kazakhstan, 2017). Two teachers attended the ENSV's<sup>1</sup> summer School, one specialising in "Animal Health", the other in "Safety and Food Hygiene". In addition, individual trainings targeting teachers from BTNAU took place in anesthesiology, microbiology and immunology, pharmacology, parasitology, theriogenology, necropsy, preventive medicine and livestock diseases.

### **Main outcomes**

In BTNAU, new modules and new methods of teaching were developed and implemented. These have been further complemented by inverted learning classes, improved internet access and more active students' involvement. The newly developed modules are in the line of the OIE recommendations and relate to epidemiology; food safety, microbiology and preventive medicine,

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<sup>1</sup> Ecole Nationale des Services Vétérinaires

pharmacology, toxicology, herd management, anesthesiology and welfare. The method for *leptospira* Multiple Loci VNTR Analysis (VNTR: Variable-Number Tandem Repeat) genotyping was implemented in the Research Laboratory with the newest methods (ELISA: Enzyme-linked immunosorbent assay and PCR : polymerase chain reaction) of the BTNAU. Finally, an assessment of the material and capacity-building needs of the veterinary faculty was undertaken (presentation, infrastructure analysis), providing an opportunity to improve and determine new directions of the infrastructure changes at BTNAU.

In Ukraine, the work done during the pre-project was widely disseminated to other faculties, as well as to the Ministry of Education and Science of Ukraine and to the National Veterinary Services, during the meetings organized by the French embassy (the «Journée des Sciences et de l'enseignement agro-vétérinaire en Ukraine») in Lviv (2016) and Kiev (2017). Regular discussions about the cooperation, the goals and the progress of the pre-project were held with the Head of the State Service of Ukraine for Food Safety and Consumer Protection (photos 1 and 2).

This OIE twinning project concluded with a closure meeting, "Implementation of the educational policy of the OIE in veterinary medicine of Ukraine", organized by BTNAU in Bila Tserkva in September 2017. The participants included representatives of the Ministry of Education and Science, the Ministry of Agrarian Policy and Food, the State Committee for Proprietary Service of Ukraine, deans and teachers of the faculties of veterinary medicine, scientific and pedagogical staff of VetAgro Sup, employees of National Academy of Agrarian Science and research institutes. The outcomes of the pre-project were shared with all participants and were met with enthusiasm (photo 3). Ukrainian colleagues expressed their gratitude for the work done through the appointment of VetAgro Sup's Director General as Honorary Professor (photo 4).

Further, the reform of the veterinary curriculum in Ukraine, under the aegis of the Department "Agroosvita" of the Ministry of Education and Science and the State Veterinary Service of Ukraine, was conducted, taking into account the OIE's recommendations for the Day 1 skills of veterinary graduates and the European standards for master's degrees. Based on the results obtained during the twinning pre-project, some significant corrections were made in the new Veterinary curriculum which is currently being reformed in Ukraine.

Finally, the benefits of the pre-project reached beyond Ukrainian borders with the proposal to create a regional association of VEEs (the "Eurasian Association of Establishments for Veterinary Education") during the Meeting on Veterinary Education organized by the regional OIE office and Kazakh National Agrarian University (KazNAU) University.<sup>2</sup> The meeting brought together 42 representatives of VEE and Veterinary Services from 11 participating countries (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan). Other proposals were to establish links between institutions and to share experiences through the creation of a common knowledge platform (bibliographic resources, distance learning). Discussions around these regional developments have included the possibility of a diploma recognized throughout the region that would facilitate the mobility of veterinarians.

## **Perspectives**

In 2017, two ERASMUS+ projects were funded: one for mobility and the other for capacity building in laboratory practice for agri-food specialists in Eastern Europe. A research collaboration has begun on epidemiology and molecular biology of *leptospirosis*. The work on the establishment of the Eurasian Association of Veterinary Education Establishments in the post-Soviet area under the aegis of the OIE will continue.

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<sup>2</sup> "Implementing OIE's global conference recommendations in the Central Asian region", Almaty, Kazakhstan, October 2016.

## Conclusion

Initially programmed for 12 months, the twinning project between VetAgro Sup and BTNAU lasted 2.5 years. An extended timeframe was necessary to develop sufficient understanding of regional contexts, to identify teachers willing to be involved in the project, and to improve both partners' mutual understanding of English, the project working language.

The partnership has benefited from the advice and active support of the OIE, which allowed the partners to modify the initial plans according to the opportunities or difficulties that arose.

Successful VEE twinning projects can influence curriculum at both the national and regional level, as demonstrated in the results of this twinning project. This success was made possible thanks to a critical mass of interested and involved faculty members at both VEEs, the strong involvement of the leadership of both institutions, and the follow-up support provided by the OIE. The project also benefited from strong support from the French Embassy in Ukraine, which helped the French partners gain a better understanding of the local contexts, helped with the project organization and allowed the partners to diffuse the results of the twinning at the national level.

## Aknowledgements

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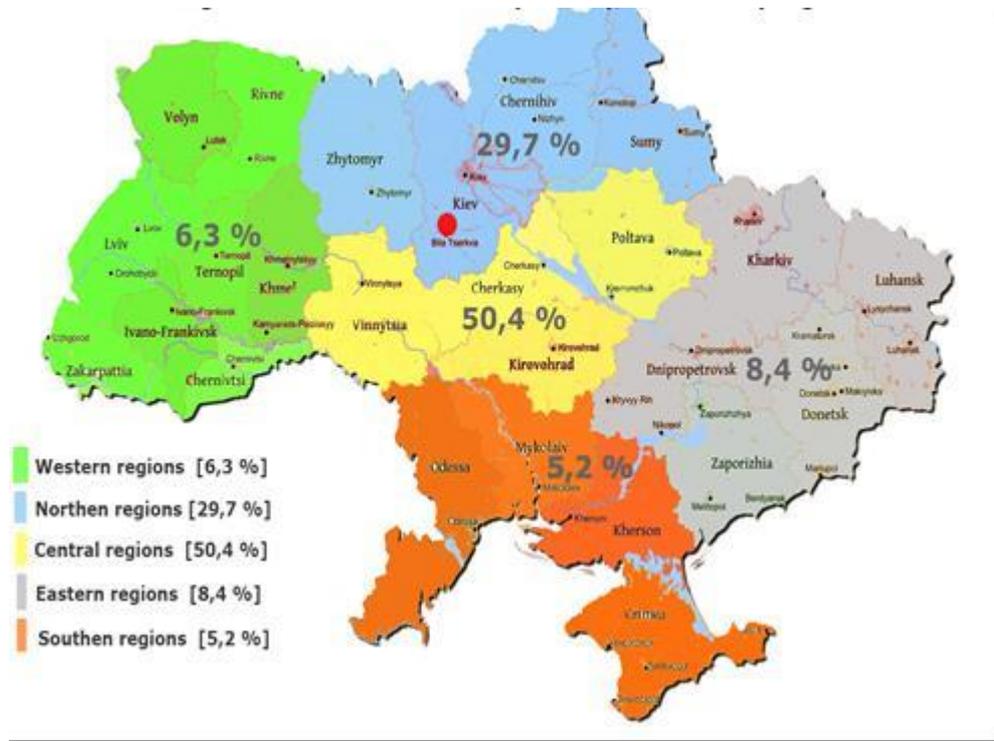
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**Figure 1** – The logical framework of the twinning project between VetAgro Sup and BTNAU; in “Results”, the numbers 211 and 212 represent two National standards of education (legislation of the Ministry of Education and science of Ukraine): 211 - "Veterinary Medicine"; 212 – “Veterinary hygiene, sanitation and expertise”.



**Figure 2** – Origin of students studying at BTNAU



**Photo 1** : 18 October 2016. The meeting at the Embassy of France in Ukraine, including teachers from VetAgro Sup, teachers from BTNAU, representatives from the Department “Agroosvita” of

the Ministry of Education and Science of Ukraine, and representatives of the State Veterinary Service of Ukraine for discussion on the implementation and goals of the project (*credit BTNAU*).



**Photo 2 :** 26 September 2017. Meeting with State Veterinary Service, including Head Volodymyr Lapa, Head of International Department Olga Shevchenko, and VetAgro Sup delegation (Pr. Marc Artois, Pr. Agnès Leblond, Dr. Emmanuelle Soubeyran, Nicolas Perrin) (*credit BTNAU*).



**Photo 3:** 28 September 2017. Participants attending the closure meeting at Bila Tserkva, including deans and teachers from all Ukrainian faculties and VetAgro Sup teachers (*credit BTNAU*).



**Photo 4:** 27 September 2017. Appointment of VetAgro Sup's Director General as Honorary Professor during the project closure meeting in Bila Tserkva (*credit BTNAU*).

From left to the right: Dr. Alain Gonthier, Pr Anatoly Danylenko (Rector of BTNAU), Pr. Agnès Leblond, Olexander Bonkovski (Head of International affairs BTNAU), Dr. Emmanuelle Soubeyran (Rector of Vetagro Sup), Olga Buduhay (interpreter), Pr. Marc Artois, Pr. Karine Portier