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Project “Improving skills in laboratory practice for agro-food specialists in eastern Europe» (Ag-Lab)

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Speciality: Veterinary medicine

Specialization: Laboratory practice

Professional competences / References

General competences

1. Ability to understand and to define peculiarities of structure and functioning of cells, tissues, organs, their systems and apparatus of animal body.
2. Ability to carry out clinic researches for defining animal's condition and for diagnostic.
3. Knowledge of pathological-anatomic diagnostic methods.
4. Knowledge of biosafety, bioethics and animal welfare.
5. Ability to develop and to carry out measures aimed to the protection of population against diseases common for animals and humans.
6. Ability to develop strategies for the prophylaxis of diseases of different etiology.
7. Ability to carry out veterinary-legal expertise.
8. Ability to organize surveillance and control of production, storage, transport and selling of products of animal and plant origin.
9. Ability to preserve the environment against the pollution by animal wastes, by veterinary and medical materials.
10. Ability to develop strategy of economic and financial activity, of marketing and management in the veterinary medicine.

Competences for the laboratory practice

- 11. Ability to use instruments, special devices, laboratory auxiliary equipment, measurement equipment and other technical means for necessary manipulations in the professional activity.*
- 12. Ability to carry out sampling, packaging, fixation and transfer of biological and pathological materials samples for laboratory researches.*
- 13. Ability to organize, to carry out and to analyze laboratory diagnostic researches.*
- 14. General knowledge in organization and functioning of laboratories (general requirements for laboratories (GPL), certification and accreditation of laboratories, international standards ISO 17025, ISO 9001, ISO 14001, ISO 45001, ISO 17043, validation of methods, biosafety levels in laboratory, European regulation related to the laboratory practice).*
- 15. Knowledge of metrological service, ability to apply procedures of calibration and verification of measurement equipment.*
- 16. Ability to apply procedures for confirmation of laboratory diagnostic efficiency (internal and cross audit, verification, calibration), quality assurance of laboratory researches (intra and inter-laboratory control).*
- 17. Ability to organize measures for laboratory researches quality insurance at pre-analytical, analytical and post-analytical stages.*
- 18. Knowledge of laboratory documents management procedures.*
- 19. Ability to respect the labor safety rules, biosafety and bioprotection at the work in laboratory.*
- 20. Knowledge of different methods of laboratory researches in the veterinary medicine (pathologic and anatomic, histological, bacteriological, virological, mycological, immunological (serological), molecular and genetic, parasitological, atomic emission methods, gas and liquid chromatography, PCR, diagnostic by atomic absorption, physic-chemical and sensor, clinic and biochemical methods of analyses).*

21. *Ability to choose adequate laboratory methods for efficient solution of scientific and practical tasks.*
22. *Knowledge of requirements of EU hygienic package, EU regulation and Codex alimentarius, national legislation relative to Maximum tolerable levels, control veterinary drugs residues, toxic matters and contaminants in alive animals, foodstuffs, fodders; ability to use these knowledge for interpretation of laboratory researches results.*
23. *Knowledge of methods and ability to identify agents of main food zoonosis.*
24. *Knowledge of standard operational procedures and methods of laboratory researches aimed to identification of diseases agents, defining of their sensibility to antibiotics and prophylaxis.*
25. *Knowledge of procedures and ability to organize measures for recycling of wastes, used samples, materials and chemicals.*
26. *Ability to carry out the assessment and management of risks at the work in laboratory.*
27. *Ability to apply computer laboratory data-aware systems in professional activity.*
28. *Ability to carry out training and information activity among laboratory specialists.*
29. *Ability to organize, to carry out and to control records management and documents circulation in the professional activity in veterinary laboratory.*
30. *Ability to define, to evaluate and to control biological, chemical and physical risks along food chain, to develop monitoring system for every critical point of control at foodstuffs production; to carry out risks assessment.*
31. *Ability to develop strategies for obtaining secure products of animal and plant origin, for production, transport and selling surveillance and control according to HACCP systemⁱ.*

ⁱ Paragraphs 30 and 31 were proposed by the universities but the veterinary laboratory recognizes that they do not deal with HACCP issues, so it can be facultative.