



FIRAT UNIVERSITY

FACULTY OF VETERINARY MEDICINE

PROGRESS REPORT FOR THE SECOND VISIT

FOR

The European Association of Establishments for Veterinary Education



(EAEVE)

Elazığ, November 2011

WELCOME

The Dean, the academic and administrative staff, and the board of the EAEVE committee welcome the 2011 Re-visiting Group of Experts to the Faculty of Veterinary Medicine of Firat University (FVMFU):

Prof. Dr. Marcel Wanner, University of Zurich, Institute of Animal Nutrition, Zurich
Switzerland.

Prof. Dr. Hans Henrik Dietz, The Royal Veterinary and Agricultural University, Copenhagen,
Denmark.

INTRODUCTION

After FUFVM was evaluated by EAEVE first time in 2007, the following Category I deficiencies were determined for our institution as indicated in Final Report of 22 April 2008.

4.1. The curriculum must include training that adequately covers swine and swine diseases, in particular the practical, theoretical and clinical aspects of the production, slaughter, and inspection/control and associated products for human consumption

4.2. Practical teaching in radiology including radiation safety must be included, and provided in a suitable facility that follows appropriate procedures.

4.14. The amount and intensity of clinical training on companion animals (especially dogs and cats) and caseload and facilities to support such training, must be improved

6.9. The radiological facilities, equipment and procedures must be modernized and upgraded to enable the unit to provide a full, safe, Professional level of service

7.2. The necropsy caseload in all species must be increased

7. 4. The companion animal caseload available for teaching undergraduate veterinary students must be increased, in particular with respect to cases receiving hospital-based treatment

10.1 The number of support personnel working in direct and effective support of academic activities of the department s and divisions of the FVMFU must be increased.

After the final report was received in April 2008, Rectoral elections took place at the Firat university in Jun 2008 and the whole university admission as well as and admission of FVM changed. New admission prepared a strategic plan for the FVM. Working with the Rector and former admission of FVM, rectification of the category I deficiencies and having FVM approved by EAEVE have been determined as a strategic target. To achieve this target, starting from 2008, Dean, EAEVE commission and department chairs worked together on the

final report collectively, and on solutions of the problems faced. Although corrective actions was taken for each one of the category I deficiencies, main focus have become to improve our clinics and clinical training.

After consulting to the EAEVE administration about the format of the report for the second visit, this progress report is written to summarize what has been done to rectify the above category I deficiencies within the last 3 years.

Deficiency 1

4.1. The curriculum must include training that adequately covers swine and swine diseases, in particular the practical, theoretical and clinical aspects of the production, slaughter, and inspection/control and associated products for human consumption.

Actions taken by FUFVM

Although swine is not the major animal species in Turkey, we admit the importance of teaching swine and swine diseases to our students who should be able to provide professional service for animal health, animal welfare and animal production and should be able to protect public from zoonotic diseases of swine origin. Therefore, meetings were held with the academic staff for expanding our swine teaching. Theoretical teaching about swine was expanded which will be explained below. However practical training was not improved as much as we wanted due to lack of swine husbandry around the region, which is the major disadvantage in front of rectifying this deficiency. However, we established a small swine unit in our farm to provide some level of practical training on nutrition, zootechny, reproduction, and clinical work (i.e. examination, specimen taking etc).

In addition we sent three of the academic staffs (one from each of Departments of Internal Medicine, Surgery and Biochemistry) to Faculty of Veterinary Medicine, University of Ion Ionescu De Labad, Romain for gaining experience on swine clinic. Similarly, one from each of pathology and virology departments were sent to the US (University of Wisconsin-Madison, College of Veterinary Medicine, Department of Pathobiological Sciences, University of Minnesota, College of Veterinary Medicine, Department of Microbiology) for gaining experience in swine pathology and detection of swine infectious diseases.

In general, curriculum of FUFVM is not species-based. Therefore, the subjects regarding the swine as well as other species are distributed among the courses. The swine subjects taught in our curriculum is summarized in Table 1.

Table 1. The subjects taught on swine and swine diseases at FUFVM.

Name of the course	Subjects on swine	Teaching Method
Anatomy	Locomotor system, organs, neural system, cardiovascular system	Practical training on plastic model, pictures from power point. There is no cadaver yet. (6 hr)
Histology	Comparatively taught	Major differences (ie liver slide due to abundance of connective tissue in pig liver)
Virology	Foot and mouth disease, Swine Influenza, brief information on other viral diseases of swine	Power point pictures (2 hr)
Obstetrics and Gynecology	Pubertas and sexual cycle, examination reproductive organs, physiology of pregnancy, pathology of pregnancy, birth, dystocia, puerperal problems, infertility, and udder diseases	Theoretical teaching + practical work on pigs of the farm, short video films, pictures (8 hr)
Parasitology	All major internal and external parasites (insects, helminths, protozoa) seen in swine	Feces examination, microscopic examination of slides, pictures (4 hours)
General Surgery	Approaching, examining swine	Clinical practice on farm pigs, PowerPoint pictures
Anesthesiology and reanimation	Anesthetic drugs, preanesthesia, induction of general anesthesia, local anesthesia, procedures used in swine	Theoretical teaching, clinical work if available, Power point pictures
Surgery (I, II, III), Foot Diseases	Surgical diseases are comparatively taught.	Theoretical teaching, cases from internet,
Pathology (I, II, II)	Comparatively taught. Special diseases i.e. hog cholera under viral immunosuppression. Other major swine diseases included: Swine pox, tuberculosis, influenza, Glasser Disease, Encephalomyelites, spirochetosis, dermatophytes	Microscopic examination of slides, PowerPoint pictures (10 hours)
Necropsy	Necropsy techniques and reporting	PowerPoint presentation.
Clinical Biochemistry	Blood, serum, urine parameters of swine, analysis methods and interpretation	PowerPoint presentation.
Pharmacology	Comparatively taught	Swine doses, interactions, adverse effects of medicines (2 hr)
Internal Medicine	Examination (anamnesis, taking vital signs) of pigs. Diseases of the systems are comparatively	Clinical practice on farm animals, power point presentation, pictures. (6 hr)

	taught.	
Animal Nutrition	Principles of swine nutrition, ration preparation	Theoretical teaching, Computer assisted ration preparation (2 hours)
Genetics	Genetic diseases of swine, principles of genetic selection	Theoretical teaching, PowerPoint presentation (1 hr)
Artificial insemination	Synchronization of estrus, examination of sperma, preservation of sperma, artificial insemination, infertility in male swine,	Theoretical teaching, power point presentation, pictures.
Meat Inspection	Antemortem examination, Slaughter of swine, postmortem carcass and organ examination, evaluation of pathological conditions	PowerPoint presentation, pictures. There is no pork slaughter around the region. (2 hr)
Swine Husbandry (Elective Course)	Principles of swine husbandry	No student registered for this course within the last 3 years.

Deficiency 2

4.2. Practical teaching in radiology including radiation safety must be included, and provided in a suitable facility that follows appropriate procedures.

Actions taken by FUFVM

Our radiology facility at the animal hospital was remodeled and new equipment has been purchased. The changes since the first visit are listed below:

- Floor and walls have been reworked for radiation safety. Lead shields were used under the cover of the walls. .
- Radiology aprons and glove, troid and gonad protection accessories, and dosimeter were purchased.
- 1000 Miliamper Digital X-Ray equipment were purchased.
- Radiation Safety Policy was prepared by the hospital management and the personnel and students are asked to follow the policy. Students are taught about radiation safety policy in the clinical work and in Radiology courses.
- One of the clinician academic staffs, Prof. Dr. İbrahim Canpolat, and a technician have been responsible from the use and care of X-ray facility.
- In 2010, X-ray facility was inspected and approved by Turkish Radiation Safety Institution (Türkiye Atom Enerjisi Kurumu), which is a mandatory procedure for operation of the facility. The facility is audited annually.

Other than the new digital X-Ray machine, Diagnostic imaging facility of the hospital was supported by Doppler ultrasound equipment and Flexible video endoscopy systme, which will be touched in further parts of the report.

Deficiency 3

4.14. The amount and intensity of clinical training on companion animals (especially dogs and cats) and caseload and facilities to support such training, must be improved

Actions taken by FUFVM

Amount of clinical training is 2 hours per week for the 3rd year students and 8 hours per week for the 4th and 5th year students. In addition, students are required to take internship and spend 7 weeks at the hospital clinics in the last semester. Division of Clinical Sciences and Hospital management work together to organize small groups (5-10 students) to work at each of ruminant, horse and small animal clinics. Academic staff and assistants are asked to encourage and supervise students to attend clinical work and use diagnostic tools. In the last 2 years, a new practice has been put in place for clinical training. A “Student Clinic Card” has been prepared by the Division of Clinical Sciences. In this card, there are basic clinical works or tasks that the student should fulfill. Student performs the work in front of the academic staff and his/her card is signed by the supervisor. All the tasks should be fulfilled by the end of the semester. In addition to Theoretical and oral exam, this is one of the criteria to pass the clinical training. Student clinic card has been applied to 4th and 5th year students. Intern students (5th year, spring semester) is also required to fulfill the tasks in the “intern card” for each department. To fulfill the tasks in their clinical cards or intern cards, students attend the hospital outside the clinical training hours. We did a survey among the intern students to detect the “ student opinion” about the intern program and the curriculum as a whole. Intern card and clinical card applications received clearly higher score indicating student acceptance for these applications.

Case load at the clinics has dramatically increased in the last 3 years. Actions taken for increasing case load included : A new hospital management, supporting hospital with 2 laboratory technicians and a pharmacy technician, increasing the numbers of assistants, supporting hospital with new diagnostic equipment (Digital X-Ray, Doppler US, Video endoscop), and visual advertisement on University TV and local TVs. A TV program named “Animal Health Human Health” carried out by FVM gave also an opportunity to introduce the animal hospital to larger populations. The numbers of the cases in the last 3 years by species are shown in **Table 2**. The numbers of those before 2009 is shown in **Table 3** which is taken to from the SER of 2007 to visualize the difference. The numbers of ruminant cases, especially cattle which is the major species around the region, has increased further compared

to the past years. Particularly, numbers of dogs has increased almost 4 folds. New diagnostic tools and advertisement combined with the vision of new hospital management probably played a role in this increase.

Table 2. Numbers of clinical cases based on species at FUFVM (2009-2011).

Species	2009	2010	2011 (by September)
Cattle	1162	2024	2053
Sheep	49	99	88
Goat	21	46	87
Equines	33	20	28
Dog	409	744	505
Cat	55	104	118
Cage Birds	31	49	64
Other exotic animals	4	6	--
Total	1764	3092	2943

Table 3. Numbers of clinical cases based on species at FUFVM (2004-2006) (From SER of 2007)

Species		Number of patients		
		2004	2005	2006
Farm/large animals	cattle	1352	1513	1603
	equines	22	20	23
	small ruminants	82	95	62
	pigs	-	-	-
small/pets;	dogs	122	149	165
	cats	41	33	29
Exotic birds (pigeon, quail, nightingale)		4	6	3

Deficiency 4

6.9. The radiological facilities, equipment and procedures must be modernized and upgraded to enable the unit to provide a full, safe, professional level of service.

Actions taken by FUFVM

Actions taken to rectify this deficiency are explained in part under those for Deficiency 2. The radiological facility has been remodeled. Floor and walls in X-Ray room have been renewed and relevant safety accessories have been provided. Radiation safety policy has been put into effect since 2009.

X-Ray machine has been upgraded. A digital machine with 1000mA power was purchased in 2009.

A separate room was set up for Doppler US examination and Flexible Video Endoscopy. Both small and large animals are examined in the same room. Technical properties of the new imaging equipment are listed below:

- **X-Ray** : Canon™, 1000mA, 80kw, DR, Flat panel digital radiography.
- **Doppler Ultrasound**: GE Logiqbook Enhanced™
- **Flexible video endoscope**: Karl Storz Endoscopy System™ for Veterinary use

Deficiency 5

7.2. The necropsy caseload in all species must be increased

Actions taken by FUFVM

The necropsy and biopsy caseload by years and species are shown in Table 4. All animals died in the hospital are required for necropsy. Local veterinarians were informed that the necropsy at the FVM has been free of charge. However, necropsy cases did not increase much mainly due to transport expenses of the dead animals. Unfortunately, there is no state budget covering this expenditure.

Since the first visit, the government has been supporting life insurance for livestock and it is increasingly getting common. When an animal died, a private expert who has a contraction with the insurance company performs the necropsy, which is necessary for animal owners to receive fund from the insurance company. Universities are excluded from this activity.

Table 4. Necropsy and biopsy caseload between 2007-2011

Species	2007	2008	2009	2010	2011 (by Sep)
Horse	2	2	6	1	1
Large Ruminant	9	7	10	19	26
Small Ruminant	65	29	37	90	143
Cat	1	2	1	4	4
Dog	4	5	8	19	5
Avian	17	28	20	20	17
Laboratory animals	0	2	1	0	0
Biopsy from various species	3	2	3	4	10
Total	101	75	86	157	206

Deficiency 6

7. 4. The companion animal caseload available for teaching undergraduate veterinary students must be increased, in particular with respect to cases receiving hospital-based treatment

Actions taken by FUFVM

Actions taken for rectifying this deficiency is explained under Deficiency 3 where the amount and intensity of clinical training was discussed. If the Table 2 and 3 are seen again, or the below tables shortened from those, the increase in numbers of cats and dog cases can be seen. Keeping a companion animal by local people is slightly increasing. Also, a protocol has been signed between our faculty and Elazığ Municipality for sterilization of stray dogs. This project is funded by Ministry of Environment. Stray dogs are treated for other diseases if present and vaccinated. They are hospitalized for 7 days. Almost half of the dog cases are from this origin. The other half is brought by the animal owners. Cats are not included in this project. Students participate in all stages of the clinical work of the companion animals. There are tasks that should be fulfilled in the students' clinic cards.

Summary of Table 2 and 3 for caseload of companion animals at FUFVM Hospital.

Species	2009	2010	2011 (by September)
Dog	409	744	505
Cat	55	104	118
Cage Birds	31	49	64
Other exotic animals	4	6	--

Species	Number of patients (2006)		
small/pets; dogs	122	149	165
cats	41	33	29
Exotic birds (pigeon, quail, nightingale)	4	6	3

Deficiency 7

10.1 The number of support personnel working in direct and effective support of academic activities of the departments and divisions of the FVMFU must be increased.

Actions taken by FUFVM

Number of support staff at FUFVM was 62 in 2007. Numbers and distribution of the current support staff are shown in **Table 5**, format of which is modified from the relevant format for personnel numbers of the SER guideline. One laboratory technician and one pharmacy technician are added to the available support personnel. As a result, total support staff are 64. All other efforts to recruit more personnel returned from Ministry of Finance.

	Budgeted posts (FTE)	Non-budgeted posts (FTE)	Total (FTE)
Support staff			
e) responsible for the care and treatment of animals	2	7	9
f) responsible for the preparation of practical and clinical teaching.	-	3	3
g) responsible for administration, general services, maintenance, etc.	24	8	32
h) engaged in research work	2	0	2
i) others (please specify)	9	9	18 (Staff at the Farm)
j) Total support staff	37	27	64

Other Actions Taken to Improve Veterinary Training at FUFVM

- An Animal Hospital Management Software (VetIdent®) has been purchased and set up at the hospital. The system is quite new. It is not completely adopted yet. In addition to administrative properties, the system can keep detailed records of patients and clinical work.. When it is completed, students will be able to view the records if they missed the case.

Similarly, authorized academic staff will be able to show the records in the lecture rooms via network.

- A major revision has been made at the small animal clinic. Floors and walls are renewed. All examination rooms are re-furnished. Operation room was divided into two. It was very large. Antimicrobial epoxy floor is used. Operation desks and operation lamps are renewed. Animal preparation area is separated from operation rooms. New accessory equipment is provided.
- Emergency clinic is reworked for renewal of floor and walls.
- 4 Mobesse cameras have purchased and set up at operation room of small animal clinic, large animal clinics and necropsy room.. These cameras are connected to the campus network. Students can see clinical activities as well as necropsy even if they are not there. In addition, this small Mobesse system can keep the records for 1 month. If the students missed the day, they can see the activities within one month.
- Cold room at the Anatomy Laboratory has been renewed. Fresh material can be kept longer.
- Research laboratory of Virology department was renewed and advanced for studying Biosafety Level 3 agents. Renewal was a part of a large project funded by TUBITAK, scientific research body of Turkey. This laboratory is not used for general teaching. But some students involving the research work can work under supervision.

Summary

FUFVM has sincerely worked for improving veterinary training and put enormous effort to rectify the deficiencies. Compared to the past, our students have now better training opportunities. Evidence-based clinical training is practiced more precisely with the support of new radiology and diagnostic equipment. Approximately 300.000 Euro has been spent to the clinics alone. This development motivated academic staff and students for clinical work and our caseload increased in the recent years.

However, not much progress could be made for increasing the numbers of necropsy and increasing the numbers of support staff. The reasons underlying these two deficiencies are more or less common among FVMs in Turkey. Transport of death animals from farms to FVM is an important problem. Despite no fee is required for necropsy, animal owners are still not willing to pay the transport expenses. We submitted a large-budget project to Ministry of

Development for upgrading our farm and setting a cadaver pick-up team in 2010.

Unfortunately, it is not funded due to global economical crisis scenarios.

Nevertheless, FUFVM will continue to improve the training to graduate better-trained veterinarians who will serve for protecting animal health, public health and assuring the animal production and welfare.