

**European Association of Establishments for Veterinary Education**  
and the **Federation of Veterinarians of Europe**

**European System of Evaluation of Veterinary Training**

**REPORT ON THE VISIT TO THE FACULTY OF  
VETERINARY MEDICINE OF LAS PALMAS**

**12-16 January 2009**

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## INTRODUCTION

The Veterinary Faculty of Las Palmas was founded in 1986 as a subsidiary of the University of Laguna, Tenerife. By 1989, the University of Las Palmas, Gran Canaria (ULPGC) was created and the young Veterinary Faculty became one of the 14 Faculties making up the new University. The Faculty is located on the Arucas campus, some 7 km from the city centre of Las Palmas and is the only veterinary educational establishment in the Canarian Autonomous Community.

An EAEVE/FVE Expert Team first evaluated the Faculty in 2000 and concluded that there were a number of deficiencies, which meant that the establishment did not satisfy the requirements of the then-in-force Directive 1978/1027/EEC and precluded approval. The main areas of deficiency were clinical training in all major species, a too low caseload for clinical teaching, inadequate access to animal materials for supervised work on cadavers and too limited coverage of organ inspection techniques for food safety.

A second evaluation by an EAEVE/FVE Expert Team took place from 12-16 January 2009. The Faculty had prepared an excellent and thorough Self-Evaluation Report and the organization of the visit was exemplary.

The Team noted many significant changes:

- The Veterinary Teaching Hospital (VTH) was restructured and brought under the Canarian University Foundation of Las Palmas. This brought budgetary and fiscal relief, which enabled additional veterinarians to be employed, which in turn resulted in an increase in caseload, particularly with horses. A further agreement with the neighbouring Animal Sanctuary has offered a significant increase in the small animal caseload.
- New Spanish national laws governing the veterinary training curriculum applying to all veterinary educational establishments in Spain were introduced in 2007-8 resulting in a curricular changeover at the time of the visitation. The new laws interpreted the requirements for veterinary training laid down by EU Directive 2005/36. Since 2000, the curriculum has been significantly changed resulting in a decrease in theory of 12 %, an increase in practical work of 46% and an increase in clinical work of 149 % per student respectively.
- New buildings have been erected and significant purchases of sophisticated equipment have been made, (See SER pages 13-14), resolving many problems outlined in the 2000 report.
- The Faculty management set up an internal SWOT analysis (Strengths, Weaknesses, Opportunities & Threats), which resulted in the preparation of the Veterinary Faculty Strategic Plan 2008-10.

The team observed that in several departments, there is a need for additional teaching staff in order to relieve the excessive work burden on some teachers. Also, overall, the number of support staff is too low, resulting in non-professional work being done by professional staff, an obvious misuse of expertise.

## **1. OBJECTIVES & STRATEGY**

### **1.1 Findings:**

The General Objectives of the University are summarized in the tripartite Mission Statement elaborated in the SER page 21. Detailed Objectives can be found in the SER pages 22-23.

The General Objectives of the Veterinary Faculty are expressed in the Mission Statement (SER page 24):

*“The Veterinary Faculty of the UPLGC is a centre of further education, unique in the Canary archipelago, committed to teaching quality and veterinary training. The Faculty aims to offer adequate answers to the demands of Canary society in questions that refer to animal medicine, animal health, public health, the food production sector, animal production in arid zones, aquaculture and marine environment, in collaboration with other institutions, in a show of respect for nature and the animal world through the training of qualified professionals, research and offering the most up-to-date services and quality.”*

This is complemented by the Vision Statement (SER page 24):

*“The Veterinary Faculty of the UPLGC would like to be recognized in the future as a platform of veterinary training beyond the archipelago, being a southern border of the European Union and a bridge between Africa, Europe and Latin America. We aim to be a centre of reference in terms of teaching, research and offering veterinary services in the archipelago, recognized inside and outside the Canary Islands for the professional excellence of our graduates and excellence in competitive lines of research.”*

### **1.2 Comments**

The Specific Objectives of the Faculty are outlined clearly and precisely on page 25 of the SER.

The Method used to measure Achievement of the Objectives and the Veterinary Faculty Quality Guarantee System are clearly detailed on pages 25-27 of the SER.

The SWOT analysis outlining the Strengths and Weaknesses of the Faculty offers an unusual in-depth self-critical insight (SER pages 29-32).

### **1.3 Suggestions**

**1.3.1 The Faculty would benefit from having its own extensive multi-species farm, and the team supports the move to this end.**

**1.3.2 Notwithstanding Chapter 10, a general suggestion is made by the team, that a detailed evaluation of the true size of the academic and support staff needs in order to achieve the objectives should be made and the eventual deficiencies in both be resolved as a matter of urgency. (Detailed suggestions are made in the relevant chapters).**

## **2. ORGANISATION**

### **2.1 Findings**

The Faculty of Veterinary Medicine is one of the 14 Faculties encompassed by the University of Las Palmas. The point was clearly made by the Rector, that the Veterinary Faculty is supported in a special manner owing to its social, environmental, research and service importance. The Dean of the Faculty is elected by the Faculty Board and subsequently reports directly to the Rector.

Detailed organizational University and Faculty structures can be found in the SER pages 37-51.

### **2.2 Comments**

It is clear that the Faculty is not autonomous and that it has a limited influence on University policy.

On the positive side, the transfer from the Faculty of the Veterinary Teaching Hospital to the cost centre of the University Trust has relieved the Faculty of a substantial budgetary burden, but, on the negative side, the Faculty has little direct influence on the VTH, where the only representative on the Board of the VTH, comprised of 7 individuals, is the Dean.

### **3.2 Suggestions**

**3.2.1 The team suggests that the limited representation of the Faculty on the VTH Board should be increased to at least 3 of the 7 members.**

## **3. FINANCES**

### **3.1 Findings**

The financial situation is described on pages 59-70 SER. The University assigns a percentage of the money received from the various government and EU sources to the Faculty and the Dean has the freedom to distribute the funds as he/she thinks fit.

### **3.2 Comments**

The figures of income and expenditure on pages 65-66 SER indicate that Salaries and Operating Costs (€ 6,801,791) are close to the Total Income (€ 7,005,945), i.e. € 204,154, which would give absolutely no flexibility within the Faculty to finance any additional necessities.

The flexibility is drawn from additional income (not listed in the SER), which is generated (2008 figures).

<b>Reason for Funding and Source</b>	<b>EURO</b>
Expenses for participation at Congresses and Scientific Meetings	20,568.20
Postgraduates registered at the University: Money from 4 governmental sources (16)	299,173.24
Postdoctoral contracts: University; Participants in University Research Groups; Research Projects, government funded (14)	345,944.00
Technical contracts and research projects (Canarian Government)	56,976.00
External (Industry) grants for investigational projects	183,187.00
<b>Total</b>	<b>885,848.44</b>

The entities deriving additional income, such as diagnostic services, are permitted to retain the greater part of the money, once a small percentage has been subtracted for both the University and the Faculty.

### **3.3. Suggestions**

**3.3.1 It is clear, that since there is a shortage of both teaching and support staff, the budget would be insufficient if the Faculty were to be more fully staffed, for which reason the team suggests that urgent and serious consideration be given to increasing the budget assignment from the University to the Faculty to cover a fuller more rational staffing scenario.**

## **4. CURRICULUM**

### **4.1 GENERAL ASPECTS**

#### **4.1.1 Findings**

According to the regulations of the university the number of examinations in the same subject is limited but there is no limitation on omitting exams. Students can take the same subject for unlimited occasions.

There are no prerequisites of taking any subject.

Writing a diploma work is not compulsory.

Credits are calculated on the basis of teaching hours (SER page 75).

### **4.1.2 Comments**

If students can take subjects several times, learning subjects may not result in a logical succession.

Many subjects in veterinary training are built on each other. If students study certain subjects without having appropriate background knowledge, learning becomes more difficult and less efficient. Some topics should definitely be considered as prerequisites for others, such as anatomy is a prerequisite for surgery, pathology a prerequisite for internal medicine, etc.

Writing a diploma work would help the students in developing several skills (literature survey, evaluation results, report writing etc.) furthermore they would have some own experiences in research.

Credits have to be calculated on the basis of the total study load. During the visit the Committee noticed that calculation based on the ECTS system is getting used as well.

### **4.1.3 Suggestions**

**4.1.3.1 Each subject should be taken only for a limited number of times.**

**4.1.3.2 The school has to define which subjects have to be completed before taking a certain subject.**

**4.1.3.3 Writing diploma work should be encouraged.**

**4.1.3.4 Credits have to be based on the total study load.**

## **4.2 BASIC SUBJECTS & SCIENCES**

### **4.2.1 Findings**

Most basic subjects and basic sciences mentioned in the EU Directive and the SOP are taught as independent subjects or parts of other subjects. The content of the basic subjects, the number of lectures and practicals is sufficient and generally the same as at other veterinary faculties.

The proportion of theoretical and practical classes is appropriate.

The groups at the practicals are small enough so students have access to hands-on work in the laboratories and in the section hall.

Practicals generally begin with a short introduction of the teacher focusing on future own work and then students can work with the control and help of the teachers.

Computer aided or based learning is widely used in teaching basic sciences.

The laboratories used to practicals are purpose made, well equipped, and students can do individual work.

Formalin treated animals are used in the anatomy practicals. The number of the animals used at the practicals of anatomy is not optimal (SER Table 7.1. Page 205).

Teaching fish and marine mammals' morphology, physiology, aquaculture and pathology receives high emphasis at the faculty.

Several teachers of the basic subjects are not veterinary surgeons, some basic subjects of great veterinary importance (physiology, biochemistry, microbiology, immunology, genetics, pharmacology) are taught completely by non-veterinarians.

No diagnostic work is done at the Microbiology Section; all diagnostic activity is performed at the Section of Infectious Diseases.

Some related basic subjects are taught by different departments.

Several departments are located outside the faculty campus.

The number of the support staff at the departments teaching basic subjects is generally low, support staff people are frequently shared by different units.

#### **4.2.2 Comments**

Computer aided or based learning is welcomed, the students seem to be very familiar with these methods, they serve as a basis of own works of the students very well.

Using fresh carcasses instead of formalin treated animals would bring anatomy closer to clinical aspects. Students would get more reliable information on morphological structures.

Teaching fish and marine mammals' morphology, physiology, aquaculture and pathology is a speciality and a strong point of the faculty.

Teaching of basic subjects of great veterinary importance (physiology, biochemistry, microbiology, immunology, genetics, pharmacology) have to be taught from a veterinary point of view since they serve as a basis of subsequent professional subjects. For this reason teachers of veterinary background are optimal.

Coordination of related subjects (microbiology, immunology, infectious diseases) can be better carried out if they are taught by teachers within the same department. In this case teaching basic subjects will be closer to clinical ones, e.g. Department of Infectious Diseases can provide samples to teaching bacteriology.

Some departments are located outside the faculty campus; all demonstration material has to be carried to the faculty by teachers.

The number of the support staff at the departments teaching basic subjects is generally low; teachers have to carry out the work of technicians.

#### **4.2.3 Suggestions**

**4.2.3.1 More fresh carcasses should be used instead of formalin treated ones at the anatomy practicals, and it is advised to increase the number of the demonstration material. The Visiting Committee had the impression that with certain co-operations the Department of Pathology can be provided with an appropriate number of carcasses from the animal shelter. The same method should be followed by the Department of Anatomy.**

**4.2.3.2 More veterinarians should be involved in teaching basic subjects of great veterinary importance like physiology, biochemistry, microbiology, immunology, genetics, and pharmacology.**

**4.2.3.3 Integration of teaching microbiology, immunology and infectious diseases is highly encouraged.**



**4.2.3.4 The number of the support staff at the departments teaching basic subjects should be increased.**

## **4.3 ANIMAL PRODUCTION**

### **4.3 Animal Production**

#### **4.3.1 Findings**

Animal Production subjects include animal production, animal nutrition: Agronomy, rural economics, animal husbandry, veterinary hygiene and animal ethnology and protection. Teaching covers the major food producing animals (goat, cattle, pig, sheep, rabbits, poultry, fish), horses and dogs and cats. There is a well balanced mix between theoretical training and supervised practical training. The practical training takes place in the faculty farm especially with goats. In addition, visits are arranged to farms outside the Faculty. All the practical training in the farms and the practical work in the laboratories is done in small groups with 2 to 8 students.

For the practical training with fish the students have to go to the Instituto Canario de Ciencias Marinas, which belongs to the Regional Government of the Canary Islands.

#### **4.3.2 Comments**

The training is really focused on what veterinarians need in their practical work and includes all the subjects needed to monitor the whole food chain from feed to food.

The students have the first exposure to handling of farm animals in the second semester.

Attention is also paid to the influence of nutrition and housing on the well-being of animals and the food quality of animal origin.

Animal breeding (reproductive management and reproductive techniques) is not taught by the Department of Animal Production, but is taught by the clinicians.

The practical work is based mainly on the goats, sheep and cattle on the Faculty Farm and completed with visits on farms outside the Faculty so that the students see the whole range of food producing animals.

There is no relationship between the animal production staff and the clinicians. The Animal Production personnel try to solve problems on the farms themselves, since they are quite often due to feeding errors.

#### **4.3.3 Suggestions**

**4.3.3.1 The numbers of hours to teach Agronomy might be increased because most of the students are not familiar with agricultural production.**

**4.3.3.2 Cooperation between Animal Production Staff and the Clinicians should be established.**

## **4.4 CLINICAL SCIENCES**

## 4.4a The veterinary teaching hospital

### 4.4.1a Findings

The VTH is well organized, the new director has a clear idea of how a veterinary hospital should be run and has streamlined corework and assigned duties properly. Third, 4<sup>th</sup> and 5<sup>th</sup> year students have practical sessions during the morning when they are tutored by teachers in groups of 3-4 students: 3<sup>rd</sup> year students mostly watch different procedures while practicing animal handling and restraint and helping in preparing surgical cases; 4<sup>th</sup> and 5<sup>th</sup> year students are gradually more involved in performing the initial visit alone with the client (signalment and history as well as filling out the animal record using the VTH fully electronic record-keeping system), after which they relate the case to the clinician and participate to the rest of the visit performing procedures such as collection of blood, urine and other samples, various measurements (rectal temperature, ECG, etc.), ophthalmoscopic examination; 5<sup>th</sup> year students have to do 2 *estancias* (practical rotations) of 75 hrs each at the VTH (small animal) for which they sign up online. These *estancias* are held only during afternoons of week-days (from 15:00 to 21:00) and on Saturday mornings, while on Saturday afternoons and during nights and week-ends only one intern is attending emergencies.

The emergency service operates around the clock for 365 days/year. Four interns are contracted each year for periods of 12 months max, and they rotate using the following system:

1 <sup>st</sup> week	work during the morning
2 <sup>nd</sup> week	work during the afternoon
3 <sup>rd</sup> week	work for 3 nights
4 <sup>th</sup> week	work for 4 nights

Hospitalization space is available for 3-4 small ruminants and 2-3 cows, but due to ongoing work to repair/pave the road outside the VTH building, there is virtually no access for large animals, while small ruminants can get through by crossing the lower level of the VTH premises. For small animal hospitalization there are 7 cages (one of which for medium-sized dogs) in the ICU room next to the Prequirofano (pre-surgery area), 5 small cages in another room and 6 mixed-size cages in two different rooms on the left lateral wing of the VTH (this wing is undergoing renovation and is difficult to access.) At the end of this wing there is a spacious room with 6-8 runs for large-size dogs, which were being worked upon (the builders were there when the team visited the VTH) and are therefore not available at present. It is difficult to hospitalize a large dog at the moment, although renovation works is at an advanced stage.

Fifth year students can be listed as “collaborating students” whereby they attend clinical work at the VTH any time they can outside of class time. This system of collaborating students works very well, and interviewed students speak enthusiastically about their experience saying that they do a lot and learn how to perform many practical procedures. A log-book of clinical procedures has been prepared for the classes of propedeutics, internal medicine and surgery, whereby specific skills among which collecting history, doing a physical exam, collecting blood, giving injections, inserting a tracheal-tube, performing an ECG, collecting urine, identifying a heart murmur or performing anaesthesia (the list for internal medicine includes 18 different procedures) have to be performed three times by each single student and countersigned by a teacher who observes the student performing the procedure correctly. In spite of this, students never perform ultrasound themselves.

Not every clinician of the Vet School collaborates to the activities of the VTH. A professor of radiology (whose clinical competence is highly valued by most of his colleagues) goes to the VTH only when he has to do his teaching assignments and occasionally when there is a clinical case which requires his opinion. Another (accordingly very competent) small animal

orthopaedic surgeon spends 6 months each year in Madrid. Although case management appears to be adequate, internists perform ultrasounds and sometimes surgery and surgeons perform anaesthesia and sometimes see internal medicine cases, which means that important services such as anaesthesia/analgesia and diagnostic imaging are not offered by true specialists at the VTH.

The VTH is managed properly, with students being involved in clinical rounds every morning and in 1.5 hr seminars every Tuesday at 13:30 for the review of the most interesting cases which are presented by the students themselves. The number of referred cases has increased remarkably to > 2500 cases/year over the last 12 months and referring veterinarians seem to be pleased with the collaboration offered by clinicians at the VTH. Prices charged by the VTH are those stipulated by the local vet chapter, and no claims of unfair competition have been reported so far. The VTH is also involved in providing continuing education opportunities to local vets, with small animal surgery, bovine medicine and wildlife medicine being the topics dealt with during the last year. None of the clinicians working at the Vet School and/or collaborating to the VTH activities are a European College Diplomate although several teachers have been abroad for extended periods.

A small Beagle colony (4 bitches and 2 male dogs, plus a recent litter) is present in the same premises where the goat farm is. These dogs are used for teaching purposes by the reproduction teachers to train students in vaginal cytology, heat detection, semen collection and freezing and artificial insemination, parturition and rearing of neonates.

Shelter medicine is being taught extensively at the nearby community shelter. This shelter is served by a full time veterinarian employed by the community. Every day a group of students followed by a professor examines the animals brought in during the last 24 hours (an average of 10 stray animals and abandoned animals are brought in every day). The students participate in the primary clinical evaluation of the animals partaking in the decision whether animals can be reallocated or they must be put to sleep. During this procedure students vaccinate the animals and treat all newly arrived animals for ecto- and endoparasites. Students bring back e.g. faecal samples for routine parasitological examination at the VTH as part of their clinical training.

Animals from the shelter being put to sleep are used extensively for teaching purposes in training surgical procedures on cadavers. The team saw high quality teaching in basic as well as more sophisticated surgical procedures being performed on cadavers. Students being properly dressed for surgery and the instruments used being of good quality which for educational purposes is highly recommendable.

#### **4.4.2a Comments**

Students' exposure to practice is more than adequate in most aspects of canine medicine, surgery and reproduction. However, this could be improved in some disciplines, and particularly in emergency and critical care by making rotation during nights and week-ends mandatory for all 5<sup>th</sup> year students. Although in general organization of the VTH is adequate for teaching needs as well as for providing clinical services, by not rotating through the 24-hr service during nights and week-ends students are missing out on many potential opportunities to be exposed to real-life small animal practice. Also, the fact that not all professors who are clinicians join the VTH prevents services like diagnostic imaging, internal medicine and surgery from being fully functional or properly manned. Therefore, sometimes the same clinician has to provide more than one service: some internists may perform surgery if necessary, and almost anybody who is seeing a case which requires a radiological investigation will do the X-ray. Being able to count on the performance the professor of radiology would make it easier to organize a diagnostic imaging service. Also, the part-time appointment of the orthopedic surgeon is probably one of the reasons why surgical

procedures need at times to be performed by clinicians who are not a core part of the surgery service.

Although the lack of European College Diplomates is not currently impacting on the quality of undergraduate training, the VTH would greatly benefit from having Diplomates in at least the 4 key disciplines of internal medicine, surgery, anesthesia and diagnostic imaging. Four such diplomates are not present altogether in any of the Spanish veterinary teaching hospitals, meaning that at least for internal medicine and diagnostic imaging the VTH at Las Palmas could become a reference center for on-line expert consultations for Spanish speaking veterinarians.

#### **4.4.3a Suggestions for the VTH**

**4.4.3.1 All 5<sup>th</sup> (and perhaps maybe also 4<sup>th</sup>) year students should be obliged to rotate through the 24-hr service also during Saturday afternoons and on week-ends.**

**Students should practice ultrasound directly, hands-on, instead of just watching their teachers doing it.**

**4.4.3.2 The VTH should develop a strategy to obtain European (or American) College Diplomates in at least the 4 key disciplines of internal medicine, surgery, diagnostic imaging and anesthesia/analgesia.**

**4.4.3.3. The VTH should consider establishing a formal system of clinical services together with the proposed introduction of diplomates. This will enhance the possibilities of establishing real clinical rotations with the participation of interns and residents.**

**4.4.3.4. With the ample access to dogs and cats in the nearby shelter a rotation or even a track in modern shelter medicine should be considered taking into consideration the huge amount of relevant clinical material being available year round.**

#### **4.4.b Clinical Training in Equine and Food Animals**

##### **4.4.1b Findings**

Large animal practice is organized through different classes. A mobile clinic is present thanks to the fact that the private practitioners have been contracted specifically to bring the 4<sup>th</sup> year students out with them during their daily practice. Based on data presented on the SER which was verified by the team, the students go through the following clinical training in food animal and horse practice: (\* = hours done through the VTH mobile clinics, which means going out with a contracted veterinarian)

#### **4.4c Equine Clinical training (total training time = 18 hours)**

##### **4.4.1c Findings**

- Propaedeutics: 3.5 hours
- Internal Medicine II: 11 hours\*
- Surgery: 3.5 hours\*

The hours of clinical training in equine correspond roughly to 3 days of practical, hands-on activity on an equine farm in groups of 2-3 students. This is organised with the help of two veterinarians, 1 private practitioner contracted by the faculty and a part time associate professor of equine surgery. The 3 days of on-farm activity is the minimum that a student can do; apparently many students do more than that based on their personal preference (e.g. they opt to go out to do horse clinical practice for one or more weeks), but nevertheless a student may graduate having done only 3 days of clinical work on horses. This clinical training is proving valuable as students actually learn how to do things rather than watching,

with the only thing that seems to be below standards being rectal palpation in mares, as most clients do not allow students to perform this procedure on their animals. Therefore, only a small percentage of students is able to learn how to perform equine rectal palpation prior to graduation. Hands-on training does include performing tendon ultrasound under close supervision by a teacher, but does not include simpler things such as performing nerve blocks on equine cadaver amputated legs, which could be easily done by retrieving equine legs from a slaughterhouse in high numbers and using them at the Faculty for a wet lab with all the students together. However, it should be noted that all clinical teaching is performed in a professional manner with a very close teacher coverage often being a one-to-one situation which guarantees a very intensive teaching.

#### **4.4d Ruminant Clinical training (Total 45.5 hours)**

- Propaedeutics: 3.5 hours\*
- Internal Medicine II: 7 hours\*
- Infectious diseases: 2.5 hours
- Parasitic diseases: 4 hours
- Obstetrics & Reproduction: 28.5 hours

Bovine clinical practice is learnt at the Vet School during the above classes where students are taught in wet labs in groups of 2-3 with one teacher during Obstetrics & Reproduction, and then while going on field trips with teachers of Parasitic and Infectious Diseases. At the Cabildo farm close to the Vet School there are 9 ewes and 9 cows which are used solely for teaching purposes. Every Monday groups of 3 students palpate the 9 cows and practice artificial insemination by passing a rigid plastic pipette through the cervix. The ewes are used to practice handling, restraint and blood collection. Little attention is paid to the concept of herd health, especially with regard to the use of reproductive indices, on which the students seem to receive some information on which are the most important reproductive indices but without any reference as to how to interpret them to properly manage reproduction. Also, the theoretical aspects of rectal palpation and identification of ovarian and uterine structures through the examination of uteri and ovaries retrieved at the slaughterhouse is not done, apparently because of bureaucratic problems with the slaughterhouse (however, teachers in the pathology department appear to be using viscera retrieved from the slaughterhouse to improve their wet labs on large animal necropsy)

A well managed goat farm is present at Vet School, with 130 does and 8 bucks. Goats are milked twice daily in a well maintained milking parlor. Students practice vaccination and general management of goats under intensive breeding, heat detection, semen collection and artificial insemination, ultrasound monitoring of pregnancy and the rearing of kids, blood collection and general handling of animals.

The hours of Propaedeutics and Internal Medicine correspond roughly to 3 days of activity on cattle farms where students go in groups of 1-2 with a bovine vet contracted by the Faculty. As with the horse veterinarians, the students sign up for this practical activity at the School, then call the veterinarian and are picked up by him at the School in the morning and spend the whole day with him. This bovine practitioner is an enthusiastic veterinarian who takes great care in making sure that students are trained in a very thorough way, and have several opportunities to practice rectal palpation, dehorning, vaccination, artificial insemination, pregnancy diagnosis, as well as abomasal or uterine surgery. He was initially taking 3 students together, but subsequently decided to cut down to 2 as he realized that learning is much more effective. As with horses, the minimum time that each student can spend doing practical bovine work is 3 days, and although many students do more than 3 days, technically one could graduate having done only 3 days of bovine practice.

The contracted veterinarians are being paid by the Vet School to provide hands-on teaching experience on cattle and horses, and they seem to be doing an excellent job. Although their

performance is not assessed in a strictly official sense (as they are not full university employees they cannot undergo an official evaluation) faculty members keep a close eye on the activity of contracted veterinarians: students who go out with them are frequently interviewed (unofficially) on what they do when they go out with the mobile clinic, and the small size of the Vet School (felt by most students and teachers like a small family) makes it very easy to figure out how things are going.

#### **4.4e Avian/Poultry Clinical training (Total 4 hours)**

- Infectious diseases: 4 hours

As with cattle and equine clinical training the faculty has agreements with poultry farms accepting students to participate in the clinical work together with a teacher and the local practitioner. Students go in groups of 3-4 with a teacher to an avian farm and are involved in practical activities such as blood collection and vaccination. However, the team was severely restrained and there was no time to participate in one of the poultry farm visits.

#### **4.4f Porcine clinical training (Total 16.5 hours)**

- Infectious diseases: 2 hours
- Parasitic diseases: 4 hours
- Obstetrics & Reproduction: 10.5 hours

The Parasitic Diseases Unit has agreements with several pig farmers, where students are brought in the same manner as with cattle meaning that the professor brings the students to the farm where the local practitioner meets them. The team saw very intensive clinical training with students involved in all aspects of clinical training. Together with the owner and the practitioner the students examined and vaccinated all sows, and piglets were injected with vitamins and iron. Faecal samples from some of the more tiny piglets were taken home to the faculty laboratory and examined for parasites and bacteria. Laboratory procedures not performed by the faculty were sent to other laboratories by the practitioner. The visit demonstrated very intensive hands-on training with 3 students and 3 supervisors (the owner, the local practitioner, the professor) where students were doing all relevant procedures in a highly realistic and intensive teaching environment.

Generally, pigs cannot be transported from a farm to the veterinary teaching hospital for various purposes and be brought back afterwards. So the VTH in Las Palmas has demonstrated clinical training in pigs diseases at a highly modern level accustomed to modern regulatory procedures.

#### **4.4g Fish Clinical training (Total 4 hours)**

- Ictiopathology: 4 hours

The students go in small groups to the Instituto Canario de Ciencias Marinas where they receive an impression of fish production and its problems.

#### **4.4h Rabbit Clinical training (Total 11 hours)**

- Parasitic diseases: 4 hours
- Obstetrics & Reproduction: 7 hours

A small rabbit farm is located at the Vet School, which includes 12 breeding does, two adult male rabbits and about 30 rabbits on which students practice handling and vaccination as well as heat detection, semen collection, artificial insemination, pregnancy diagnosis and the rearing of offspring. Students are involved in basically running the operation, to the point that during the academic year the lay personnel assigned to the rabbit farm will only do the cleaning, while the students do all the rest.

#### **4.4.2 Comments**

Students get a very good exposure to practical activity and have several opportunities to learn how to perform the most clinical procedures in food animals and horses. The quality of hands-on practice is exceedingly good in goats and pigs, and is also good in all other species, including poultry and rabbits. The contracted veterinarians do an excellent job, the students are very happy and the faculty seems to be taking a good advantage of the relatively small large animal population of the island. Although these practical on-farm activities are well organized and contracted veterinarians appear to be responsible in bringing students with them on a regular basis as well as conscientious in teaching them (and letting them do things) as much as possible, it appears that the Faculty does not exert a tight control to check whether or not each single student has done her/his assignment.

The fact that students may graduate without having performed a rectal examination in a mare may give rise to some concerns, although students who are motivated to learn about horses will find a way to learn how to diagnose pregnancy in mares through rectal palpation. Nevertheless, and despite the low horse population of the island, a) teaching mares should be available to practice rectal palpation; b) students should go out with contracted veterinarians for more than 3 days. Less relevant aspects are a) the lack of attention given to the herd health approach and interpretation of reproductive indices, and b) the lack of wet labs on examination of bovine and equine ovaries and uteri, as well as equine legs retrieved from the slaughterhouse. These are relatively easy teaching sessions to be organized by any veterinary school, and the one at Las Palmas should not be an exception to this rule.

Staff is to be commended on their success in developing relationships with private farmers which allow students to gain extensive practical experience in examining, handling and treating animals of all relevant species.

#### **4.4.3 Suggestions**

**4.4.3.1 A small number of teaching mares should be purchased and kept at the Cabildo Farm to train senior students in equine rectal palpation.**

**4.4.3.2 The rotation on the equine and bovine mobile clinic should be organised so that at least 8-10 days of practical activity in both species are done by all students.**

**4.4.3.3 The faculty should make provisions that students receive theoretical training on how to calculate and interpret reproductive indices for bovine reproduction.**

**4.4.3.4 The faculty should make provisions that pelvic organs as well as equine legs can be retrieved from the slaughterhouse so that wet labs can be organised for students to practice recognition of ovarian and uterine structures as well as local anaesthesia and infiltration in case of equine lameness.**

### **4.5 FOOD HYGIENE & TECHNOLOGY AND VETERINARY PUBLIC HEALTH**

#### **4.5.1 Findings**

Theoretical teaching materials in Veterinary Public Health are well prepared, cover the subjects well, and are in the main, available to the students on the faculty's Virtual Learning Environment.

There is good co-operation between the staff teaching Food Science and Technology in third year and those teaching Food Hygiene and Inspection and control of foodstuffs in fourth and fifth years.

While staff is aware of the importance of integration of veterinary public health into the teaching of basic sciences and clinical teaching, there is room for further development.

Theoretical information is delivered both by whole class lectures and by seminars to part class groups of various size.

Year	Subject	Theory	Practical	Group size	Teaching staff
3	Food Science & Technology	75	10 - Meat lab 10 - Dairy lab 15 - Pilot plant 4 - Cheese 4 - Honey 4 - Meat products 4 - Olive oil	10	2 full time 1 part time (6 hrs/week)
4	Food Hygiene	30	12 – lab 3 – food businesses	7 5-6	2 full time 3 part time (1 x 6 hrs/week & 2 x 3hrs/week @ the slaughterhouse)
5	Inspection and control of foodstuffs	60	10 – lab 10- BIP, food industries 15 – s/h	7-9 5-6 5-6	
2	Epidemiology	30	15	15	2 full time
5	Preventive Vet Medicine & sanitary policy	45	15	15	
5	Professional ethics, forensic medicine & Vet legislation	30	15	?	3 full time 1 part time

Table 4.5; Loading of teaching in Veterinary Public Health

The staff organise a varied and relevant range of practical sessions in groups of appropriate size. There is a good balance of faculty based laboratory work and visits to commercial companies and workplaces.

The Food Science & Technology and Food Hygiene/Inspection and control of foodstuffs teaching staff have no dedicated technical staff support but rather share a technician from the Department of Technology.

The practical visits experienced by the evaluation team, to the sausage processing establishment, the school kitchen and the Border Inspection Point, are very worthwhile. The students have the opportunity to observe, experience and participate in the real working environment. Teaching staff have produced worthwhile teaching aids and material in order to improve and maximise the worth of the learning opportunity. The existing good working relationship with the owners, operators of the commercial companies and with the Competent Authority was observed.

The Faculty has a dedicated facility for the manufacture of cheese and a visit takes place to a traditional cheese production establishment.

In addition, the Faculty has a 'Food Processing Pilot Plant' equipped with meat and vegetable processing equipment – see comments in chapter 6.



All students have 15 hours practical experience at the slaughterhouse. However, not all students have direct practical experience of all farm animal/poultry species.

There is currently no elective provided by the faculty on food safety aspects of fish production.

#### **4.5.2 Comments**

The integration of veterinary public health into the teaching of basic sciences and clinical teaching could be further developed.

The burden of teaching is not evenly distributed.

The subjects of Food Science and technology, food hygiene and inspection and control of foodstuffs are taught by four full time professors and four part time staff, two of which teach practical skills at the slaughterhouse.

The burden on teaching staff is such that the required PhD teaching has not been carried out this year.

The deficiency in teaching staff is impacting on the ability of the faculty to deliver an elective on the inspection and hygienic production of fish and fishery products, an area of increasing economic significance to the Canarian Autonomous Community.

The Food Science & Technology and Food Hygiene/Inspection and control of foodstuffs teaching staff require a dedicated technician to assist with preparation of lectures, faculty based laboratory practicals and with administration.

Staff is to be commended on their success in developing relationships with commercial companies and the Competent Authority which allow students to gain practical experience of food processing and official controls in the workplace.

Not all students will necessarily experience all species at the slaughter establishment. However, most do, and the quality of what is experienced compensates for this potential deficiency.

#### **4.5.3 Suggestions**

**4.5.3.1 Further integration of veterinary public health into the teaching of basic sciences and clinical teaching should be encouraged.**

**4.5.3.2 Food Science and technology, and food hygiene/inspection and control of foodstuffs require two additional assistant professor positions urgently. This will allow current levels of teaching and practicals to be maintained, the required PhD training to be recommenced and an elective on food safety aspects of fish production developed.**

**4.5.3.3 The Food Science & technology and Food Hygiene/Inspection and control of foodstuffs teaching staff require a dedicated technician to assist with preparation of lectures, faculty based laboratory practicals and with administration.**

#### **4.5.3.4 Existing relationships with commercial companies and the Competent Authorities should be consolidated and further contacts developed.**

#### **4.5a Facilities: Slaughterhouse**

##### **4.5.1a Findings**

Fifth year students have access to the Gran Canaria Island Slaughterhouse, which belongs to the Cabildo of Gran Canaria, and is managed by a private company.

The facility, which was built fifteen years ago, is contained within two main buildings one for the slaughter of cattle, sheep, goats and pigs, the other for poultry and rabbits. Structures and facilities are adequate for the operations and volumes of slaughter carried out there, and meet current legislative requirements. Although the structures are starting to show their age, maintenance is good.

The speed of production at this slaughterhouse, and the space available, facilitates small groups of students observing and participating in inspection and control procedures.

The veterinary inspection services are carried out by staff from the Gran Canarian Health Area of the Health Department of the Canarian Government.

Three Veterinary Inspectors provide the official controls within the slaughterhouse, two of which are contracted as associate teachers of the faculty to provide 3 hours of teaching per week.

Students visit the slaughterhouse in groups of four for a total of fifteen hours, on Mondays, Tuesdays and Thursdays.

##### **4.5.2a Comments**

The island slaughterhouse provides the student with good access to meat hygiene controls in a slaughterhouse under commercial conditions. Facilities and throughput are suitable for the process.

The contracted teaching staff, and inspection team, are enthusiastic in their approach to their interaction with the students and the presentation of their subject.

There is a good working relationship with the management of the commercial operation and, in particular, with the veterinarian employed by the business.

The contracted veterinarians confirmed that the students had received appropriate theoretical teaching prior to their practical at the slaughterhouse. However, time did have to be spent with each group of students, at the beginning of their practical, explaining the specific systems and operations employed at this slaughterhouse. This training could be carried out, by the contracted veterinarians, at the faculty in larger seminar groups, so freeing up additional time for hands on practical experience.

##### **4.5.3a Suggestions**

**4.5.3a1 Consideration should be given to providing the contracted veterinarians with the opportunity to deliver a seminar to larger groups of students prior to their attendance at the abattoir at which the specific systems and operations employed at the facility could be explained.**

## **4.5b Facilities: Food Processing Pilot Hygiene Plant**

### **4.5b.1 Findings**

The Food Processing Pilot Hygiene was recently opened. Finishes and equipment are to the required standard. There are a number of new meat/food processing appliances which have not yet been used.

The processing room has no environmental temperature control system. Consequently, windows and doors without fly screens are left open.

The entrance door opens directly into the processing room. There is no hygiene lobby in which students/visitors can put on protective clothing.

There are no physical barriers between raw and cooked product areas.

### **4.5b.3 Suggestions**

**4.5b.3.1 A hygiene lobby must be built within the processing room in order to ensure hygienic operation.**

**4.5b.3.2 A system for control of the environment within the processing room, temperature and humidity, must be installed.**

**4.5b.3.3 A system to control access of flies must be installed.**

**4.5b.3.4 Adequate systems to separation cooked from raw foods must be introduced.**

## **4.5c Facilities: Cheese Processing Unit**

### **4.5c.1 Findings**

The Faculty has a cheese making room located at the goat farm. The facility is used to demonstrate through practicals cheese making, butter manufacture and yogurt production.

These practicals provide excellent hands on learning opportunities for the students.

### **4.5c.2.& 3 Comments and Suggestions**

**None**

## **4.6 ELECTIVES, OPTIONAL DISCIPLINES & OTHER SUBJECTS**

### **4.6.1 Findings**

The faculty does not run a tracking system. However, the students may follow various electives predominantly within 4 main subject groups:

- Veterinary Medicine

- Animal Production
- Food Hygiene and Technology
- Marine Biology and Resources.

Table 4.3. lists all the 17 different electives from which each students must choose a total of 40.5 credits the aim being to train the student in those areas that he/she feels are most in accordance with his/her interests.

#### **4.6.2 Comments**

There is a sufficient number of electives for the students to choose from.

#### **4.6.3 Suggestions**

**None.**

## **5. TEACHING QUALITY & EVALUATION**

### **5.1 TEACHING METHODOLOGY**

#### **5.1.1 Findings**

Teaching is well balanced between lectures, seminars, practicals and E-learning.

It seems very important to teachers that preparing samples, for example histology slides, is an important part of the learning objectives for the students. Practical in, for example, anatomy, are structured with a thorough introduction prior to self-directed practical learning in for instance cadavers for dissection. There are many mandatory practicals included in the schedule. Groups vary in size but generally the groups are small enough to promote a good learning environment with only one teacher per group. During anatomy practicals there are thus about 3 students per cadaver and in histology students each have one microscope.

Self study is encouraged and often mandatory in form of mandatory participation in blogs etc. in the virtual campus.

Lectures are mostly taught aided by power point presentations.

Seminars are an integrated part of most subjects and are additionally used for part of the final evaluation of the student. The students will prepare a subject within the curriculum and produce a CD-Rom and a presentation for the rest of the class. During the presentation there will be a number of questions for all the students thus ensuring that all students have studied the particular subject.

E-learning is an integrated part in many courses at the Faculty. The “moodle” system has been used at the University for the last 3-4 years. The Veterinary Faculty has not been using it for very long. The “moodle” system is administered by the University and provides support for users and teachers.

It is used as a tool for teaching as well as evaluation. Students are able to access the e-learning system from home 24/7. The teachers find it an effective tool however it is very time

consuming on their part. To aid the e-learning in, for instance, histology and cytology the teachers have published a booklet with examples and descriptions of slides.

Most subjects are taught over 3-4 months with a few theoretical classes per week. This allows the students to assimilate the material properly and they also seem to have enough time for self study. According to the students, work load varies, but they generally do not attend more than 25-35 hours of classes at the Faculty per week. In general, teachers across the Faculty show great enthusiasm towards learning environment and teaching.

In many courses, the teachers have published books especially for their subjects to ease the reading burden and expenses for books to the students.

Specific learning goals are set in the teaching organization plan in the subject teaching project. This is finally approved by the Teaching Affairs Committee.

The students are acquired to study their subjects from traditional textbooks, prepared notes and booklets prepared by the teachers as well as lecture notes and E-learning programmes in the virtual campus. E-learning is compiled of questionnaires, assignments etc. prepared by the teachers.

Problem oriented teaching is used very widely especially in clinical subjects.

Evaluation of teaching and courses are described in section 5.1.4 on page 156 in the SER.

There is a high percentage of practicals, however this is well balanced with theoretical training.

### **5.1.2 Comments**

Evaluation of courses and teaching: The questions in the evaluation are too general to be useful for improvements. Teachers in clinical science expressed the opinion that students are reluctant to answer the evaluation and accordingly they have stopped performing it. They find it better to talk to the students directly.

### **5.1.3 Suggestions**

**5.1.3.1 It might improve the usefulness of the evaluation to add the students' estimation of hours spent on the subject, the average results of the exams and number of re-examinations before the students pass the exam.**

## **5.2 EXAMINATIONS**

### **5.2.1 Findings**

The examination system is in the SER pages 148-55 and in the description of the subjects.

There are no external examiners.

Students are allowed to retake exams 6 times (SER page 149). They are additionally allowed to re-enrol in the subjects an unlimited number of times.

Examinations are well structured and mostly consist of several partial exams of various percentages.

Average completion time is 7.3 years which is rather inefficient. Also students can move on from one year to the next without passing exams (in exception of the first year where they have to pass their subjects within the two ordinary sittings). The fact that it is possible to retake subjects any number of times and that there are six trials for the exam also seems inefficient.

### **5.2.2 Comments**

In general, teachers put a lot of work into planning and developing the examinations. They try to take the pressure off the students during the examination periods by dividing the exams. Examinations aid learning in most cases.

The many retakes allowed for each subject exam seems to delay students. It also poses a problem in terms of lack of knowledge if students pass on to subsequent subjects without retrieving basic skills and knowledge (tools).

### **5.2.3 Suggestions**

**5.2.3.1 The number of retakes should be limited to three and if denied a pass they should not be allowed to enrol for a second time.**

**5.2.3.2 There should be a student counselling service (in addition to the administrative office) where students could ask for help planning their studies if they have fallen behind or fail classes.**

**5.2.3.3 Propedeutic exams should be taken first – a system should be implemented by which each exam or the majority of exams should be propedeutic to some other ones, so that for instance anatomy and physiology must be taken prior to taking pathology, pathology must be taken prior to taking pathological anatomy, pathological anatomy must be taken prior to taking any clinical exam etc.**

## **6. PHYSICAL FACILITIES & EQUIPMENT**

### **6.1 GENERAL ASPECTS**

#### **6.1.1 Findings**

The faculty was founded in 1986. The campus of the faculty is located 7 km from the capital city Las Palmas de Gran Canaria. The buildings of the faculty quite new, most of them were built in the recent 10 years, they are in a good state.

The buildings are purpose built the number of seats in the lecture halls, seminar rooms and laboratories is appropriate.

There are large common places for students like reading room, cafeteria and aula.

The lecture halls and seminar rooms are equipped with computers and projectors, so in all lectures, practicals and seminars computer aided presentations can be given.

The laboratories are well equipped; all necessary examinations can be carried out by students. Individual equipment (e.g. microscopes, computers) is common.

There are more computer rooms to practicals and for free access of students. The computers are modern, the faculty has an annual budget for keeping computers up-to-date and a technician at work in the main students working room.

The faculty has no small rooms for group working of students.

The faculty farm is quite small but it should be noted that space is very limited as the faculty is built on the slope of the mountains.

The faculty provides a shuttle service for students between the faculty and the bus station in the rush hours.

Safety measures are appropriate.

### **6.1.2 Comments**

Students receive several assignments, which have to be carried out in the form of group. For group work small rooms are needed.

To increase farm work at the faculty, a larger farm would be necessary as the faculty farm is small. However, a lot of hands-on training including handling the animals is done when students go on the clinical farm visits

### **6.1.3 Suggestions**

**6.1.3.1 Creation of small rooms to group work is advisable.**

**6.1.3.2 Extension of the farm is encouraged.**

## **6.2 CLINICAL FACILITIES & ORGANISATION**

### **6.2.1 Findings**

The clinical facilities are well described in the SER.

The clinical facilities in the Veterinary Teaching Hospital (VTH) were generally of an adequate to high quality. Standard core facilities as a modern reception area, fully electronic file systems integrated in all the examination rooms, standard equipment for examining small companion animals (otoscope, ophthalmoscope etc) present in all examination rooms, special rooms for doing surgery on cadavers before doing real surgery in a small but well equipped surgical theatre with modern inhalation anaesthesia, preceded by a well equipped pre anaesthetic room with the possibility of supervising the anaesthetized animal's respiration, pulse etc.

The VTH has a core staff of contracted veterinarians employed by the foundation and under the management of the VTH manager who is a fully qualified DVM with international experience. In addition to the contracted veterinarians professors from other departments do clinical work in the VTH both in small animals and in large animals.

To one side of the clinical area there were students labs for basic clinical pathology including cytology, parasitology, haematology and urinalysis. These rooms were also used for written examinations in small groups together with post docs working on their various projects. Some samples are processed in the VTH laboratories while other samples e.g. special histological problems are outsourced to a private, external laboratory according to the specialties covered by the pathology department. Cytology and histopathology service has increased considerably over a three year period to >1,600 cases annually in 2007. The parasitology service carried out > 5,000 analyses in the last year recorded.

A picture of the relative position of the various parts of the faculty also indicating the complicated terrain in which the faculty is placed (on the slope of a mountain) is shown in the SER on page 176.

Overall the facilities were clean and well maintained.

The VTH offer a real 24/7 with staff (interns) on duty or on call and students being called in according to a voluntary list.

### **6.2.2 Comments**

It should be mentioned that an impressive number of laboratories (25) is available for students for teaching purposes (vide tables 6.4.b and 6.5.). Most laboratories were inspected by team members and found in good working condition offering very good opportunities for the students to do their practicals in all subjects. The laboratories accept samples from the VTH as well as from outside sources.

The ambulatory clinical activity is very extensive but organized on a personal basis with a number of agreements with local veterinarians.

Clinical facilities at the Vet School are well kept and operated mostly by the students. Space at the Cabildo Farm could be used better by keeping more teaching animals, particularly horses.

### **6.2.3 Suggestions**

**6.2.3.1. The staffing of the VTH should be reorganized as mentioned in suggestion 10.3.1.**

**6.2.3.2. With the increased rate of referred cases to the VTH it should be considered how the hospital can/should be extended to accommodate all the new activities.**

**6.2.3.3. Together with plans for extending the hospital premises a plan should be made for acquiring new equipment in accordance with the specialties the VTH decides to cover in-depth.**

**6.2.3.4. An overall system should be put in place to facilitate agreements on students' participating in clinical activities with private practitioners and to facilitate interdepartmental organization of the agreements with farmers mentioned in the SER at pages 220 and 221.**

**6.2.3.5. Increase the number of teaching cows and keep also some teaching horses at the Cabildo farm.**



## **7. ANIMALS & TEACHING MATERIALS OF ANIMAL ORIGIN**

### **7.1 Findings**

The SER describes the animals and teaching material of animal origin in depth, and the team was pleased to find a very good correlation between the description and the actual findings.

It is evident that the faculty has ample access to animals in the faculty farm and the Cabildo farm (goats, sheep, cattle, pigs dogs, bees), in the nearby small animal shelter (annual animal turnaround > 3,600 animals) and in the huge number of privately owned farms with which the faculty has agreements to visit during the clinical rotations and on an out-patient basis.

The students' practical training in handling animals for various routine procedures (handling, restraint, blood collection, faecal sampling etc.including slaughterhouse and food hygiene training has already been described elsewhere in the report. Animals are available for students to train on in ample supply.

### **7.2 Comments**

With the quite high number of pigs seen in private farms one would expect a larger number of pigs available for necropsy.

With the high throughput of animals in the nearby animal shelter a surplus of animals is already used for students to train surgery in cadavers but it seems that little use is made of this opportunity for fresh material for anatomical dissection.

Even with a correction for fish (not acceptable as part of the ratio for necropsies) the ratio and distribution of necropsies between species is considered sufficient.

### **7.3 Suggestions**

**7.3.1. The number of horses for clinical examination might be improved even taking into consideration the relatively low number of horses available at the island of Gran Canaria (< 2,000). Agreements with local military/police compounds should be investigated.**

**7.3.1. Agreements with horse owners to let students do rectal palpations should be introduced.**

**7.3.2. The use of canine and feline cadavers from the shelter for dissection training on fresh cadavers in anatomy should be highly encouraged giving students the opportunity to do dissections also on a voluntary basis.**

## **8. LIBRARY & EDUCATIONAL RESOURCES**

### **Library**

### **8.1a Findings**

The librarian is hired by the university. There is an extensive list of journals(subscribed and online access). There are usually five copies of textbooks often used by the students (up to 15 copies). Often students use the library books instead of buying books. The library has a functional website with various search-functions. There is access to the UPLGC library via the website. The budget of the library has not changed for the last five years (however they save money on the online access compared to paper subscriptions). Further detail can be found in the SER pages 237-44

There are 139 study places for students. There is access to journals via metalib (21.911 journals in total, about 1200 veterinary journals). There is an acceptable numberof textbooks and the selection is good. There is good balance between teaching textbooks/educational journals and research oriented texts and journals. There are adequate work computers and there is a full university library website. Access to “moodle” has just been introduced.

The Faculty library offers the possibility of access to the main university library as well as the opportunity to order books (on line) from other libraries in mainland Spain and Europe.

There is central library indexing. There is only one library; however there seems to be a number of textbooks available to the students in the departments.

The library is open 12 hours a day. There is a wish from the users to have 24 hour access, however they find 12 hours acceptable.

There is a mandatory introduction course for first year students as well as voluntary courses on specific areas of library functions etc.

### **8.2a Comments**

The library is small but functions very well. The librarian is very dedicated. There is an adequate amount of literature and there is also the possibility of ordering books from many other libraries.

### **8.3a Suggestions**

None.

### **Virtual campus:**

#### **8.1b Findings**

The university employs a person responsible for the virtual campus and in addition, there are also two persons available for support to users of the system (including “moodle”). (5 persons employed in total).

The Faculty uses the “moodle” system.

Introductory courses are held for users (staff) both on a basic and an advanced level.

63% of the courses use the system in their teaching (at a university level). The Faculty does not require that teachers use it.

The system includes a calendar function used for examination dates, closing dates for assignments, blogs, etc.

It is used for power-point presentations for lectures and evaluations/examinations as well. The only identification is the login + password.

### **8.2b Comments**

The system is functioning very well and the teachers use it intensively.

### **8.3b Suggestions**

**8.3b.1 Consideration should be given to adding an archive function where students could access previous subjects (ppt's etc.)**

**8.3b.2 Direct integration of the schedule system could also be considered.**

## **9. ADMISSION & ENROLMENT**

### **9.1 Findings**

A full description of the admission and enrolment system are well described in chapter 9 of the SER:

Admission of students is regulated by the Spanish Law. After a six-year-long primary and a four-year-long secondary education future students of baccalaureate on life and health sciences can apply to the veterinary faculty. In this baccalaureate there is a focus on biology and chemistry, but not mathematics and physics. The students have to pass the University Access Test of ULPGC.

There is a numerus clausus, the yearly number of first year students is limited to 72. The number of graduates is 56 in average. There are 622 veterinarians working on the Canary Islands of about 2 million inhabitants, most of them are young or middle aged.

The number of the students applying to the Faculty of Veterinary Medicine at the first place has considerably increased in the recent year, nearly nine times more students applied on the first place than the number of available places.

There are dedicated places (altogether 18%) for disabled, foreign student or students with sport records, graduates.

The drop-out rate is 3% according to the SER (Page 263), however the average number of graduates is 56 (SER Table 9.4 Page 258) and the number of students taken is 72 (SER Table 9.2 Page 256) so the correct drop-out rate is 22.2%.

The Faculty has Socrates/Erasmus exchange programmes with 17 European faculties, 8 students go abroad and the Faculty receives 16 foreign students annually. Additionally the ULPGC has its own exchange programme with Latin American universities (one student going abroad and one student received). The Faculty has an agreement with 9 Spanish

faculties (Seneca/SICUE) (six outgoing and 11 incoming students). (list of exchange universities in the SER p. 255).

## **9.2 Comments**

Applicants are not required to take courses in mathematics and physics before entering veterinary school. The SER states that often students apply without these skills and they thus have to be taught at a very basic level as well as the required level at the Faculty.

The average completion time is too long. This may be due to lack of basic skills on entering the Faculty (regarding mathematics and physics) and also due to the fact that it is allowed (in most cases) to pass on from one year to the next without passing the exams of the previous years. Also students can enrol in subjects an unlimited number of times.

There are significant numbers of students dropping out.

10% of students are accepted on background of experience with animals otherwise there are no indicating factors as to whether the students have the abilities/skills wishes to become a good veterinarian. The university access test is not favouring veterinary skills either.

It has been implied that the market for candidates is limited and thus the number of students admitted annually should be reduced.

## **9.3 Suggestions**

**9.3.1 Student intake should be adapted to the primarily local needs of the community for veterinary surgeons i.e. at the current time a student intake of around 60 would more than cater for the needs.**

**9.3.2 Although the admission rules are regulated at a national level and it is not easy for the Faculty to select the most qualified students, ideally the admission procedure should be modified to select students better to reduce the drop-out rate.**

**9.3.3 Mathematics and physics should be requirements for applying to the life and health sciences.**

## **10. ACADEMIC & SUPPORT STAFF**

### **10.1 Findings**

Teachers receive continuing education on teaching methodology and examination

There are coordinating meetings between subjects on a yearly basis

The Veterinary Teaching Hospital (VTH) has a core staff of contracted veterinarians employed by the foundation and under the management of the VTH manager who is a fully qualified DVM with international experience. In addition to the contracted veterinarians

professors from other departments do clinical work in the VTH both in small animals and in large animals.

## **10.2 Comments**

In comparison to the 2000 EAEVE/FVE-evaluation the staff situation in the VTH has greatly improved. However, effective management of a modern veterinary clinic combined with extensive student training and clinical research demands a more clear vision of leadership.

## **10.3 Suggestions**

**10.3.1. To improve the leadership potential and the overall management in the VTH a working group including external experts should be established with the aim of planning changes to take full advantage of the potential in the VTH. Including direct employment of all clinical teachers and researchers in the VTH in stead of using teachers from other departments in the VTH. This work may result in professors being transferred from one department to another department.**

**10.3.2. The low level of technical/support staff should be increased to a level comparable to other modern veterinary faculties.**

# **11. CONTINUING EDUCATION**

## **11.1 Findings**

The faculty states that most postgraduate training is done through the postgraduate programmes which is substantiated by a list of the courses organized in or by the faculty in 2007 and 2008 (page 285, SER)

Apart from that the faculty also participates in the University of Las Palmas' continuing education activities as shown in table 11.1.2. & 3.

## **11.2 Comments**

With the relatively small staff a more extensive participation in or organization of continuing education activities cannot be anticipated.

## **11.3 Suggestions**

**11.3.1. The faculty should focus on e.g. 4 continuing education programmes annually. These programmes should be financially supported by the faculty/university and be focused on the core areas in clinical activities (reproduction, intensive care e.g.), food hygiene (food safety control) and marine mammals. The last subject has a world wide attention by students, researchers and the public and might be used to profile the faculty/university globally.**

# **12. POSTGRADUATE EDUCATION**

## **12.1 Findings**

The Faculty offers 4 PhD programs and 1 Master program (SER Table 12.2 Page 294).

The PhD programs consist of a two-year-long theoretical and practical part, when the students are obliged to have 200 hours of contact training, followed by a 120-hour-long research project. They have further 2 years to complete their thesis.

There are 106 PhD students and 5 master students working at the faculty (SER Table 12.2 Page 294).

PhD students have to participate in education of undergraduate students; they have to have 60 contact hours in a year.

Publication of papers in journals is not a precondition gaining a PhD degree.

A high proportion (85%) of the PhD students obtains an intermediate level of “Diploma of Advanced Studies” and 32% finish their training with a PhD degree.

The number of postdoctoral places available for PhD graduates is very limited.

About 2/3 of the PhD students have grants from the state, ministry or university and are consequently obliged to spend at least 6 months of their education in research institutions abroad.

## **12.2 Comments**

The PhD program is quite similar to that seen in several European countries.

The number of postgraduate students is very impressive taking into consideration the size of the faculty.

Introduction of international publication activity as a prerequisite of gaining a PhD degree would increase the quality of the postgraduate education.

“Diploma of Advanced Studies” is sufficient to receive several positions.

Increasing the number of the postdoctoral places would help devoted graduates to start a research career.

## **12.3 Suggestions**

**12.3.1 Introduction of publication activity as a prerequisite of gaining a PhD degree is highly recommended.**

**12.3.2 PhD students reaching the “Diploma of Advanced Studies” should be encouraged to finish their education with a PhD thesis.**

**12.3.3 Increasing the number of postdoctoral places should be initiated by the Faculty.**

# **13. RESEARCH**

## **13.1 Findings**

The Faculty of Las Palmas is research oriented. The academic staff is very active in publishing scientific papers in international peer reviewed journals with high impact, a fact not indicated in the SER.

The Faculty owns well equipped modern laboratories. Some of them are used by different institutes which promote the collaboration between the researchers of the different disciplines. The realisation of common labs is a modern and efficient method not only of saving money but also to increase the scientific output.

The undergraduate students are hardly involved in research. They spend their time attending the theoretical and practical training.

### **13.2 Comments**

The Faculty has excellent research facilities. Nevertheless most of the students do not realise the value of a graduating dissertation which is normally the introduction to research. The graduates prefer to work as soon as possible in veterinary practice.

One of the strengths of the Faculty is the collaboration with the Instituto Canario de Ciencias Marinas. Here the students could do research in the broad field of fish production. The importance of fish production is increasing because the growing world population cannot be nourished only with the "classical" terrestrial protein sources.

### **13.3 Suggestion**

**13.3.1 The scientific staff has to show the students the importance of research so that more graduates start an academic career. Not only the Faculty of Las Palmas but the whole veterinary profession need more academic offspring. It is one of the most important tasks of each professor to encourage young scientists.**

**13.3.2 The Faculty should define some main research focuses and concentrate most of the resources on these topics in order to avoid dilution of effort. Nevertheless there are only few students who start by realising a PhD but most of the students do not see the value.**

## **EXECUTIVE SUMMARY**

The team found no evidence of category I deficiencies during its 12 - 16 January 2009 evaluation of the veterinary education at the Veterinary Faculty, University of Las Palmas de Gran Canaria.

The team was received in a friendly and professional atmosphere.

The SER was well prepared, and the team noticed a very high degree of agreement between the text and the actual findings. The Faculty answered all questions sufficiently and provided all the necessary material to perform an in-depth evaluation of the veterinary education.

A general suggestion is made by the team, that a detailed evaluation of the true size of the academic and support staff needs in order to achieve the objectives should be made and the eventual deficiencies in both be resolved as a matter of urgency.

Urgent and serious consideration should be given to increasing the budget assignment from the University to the Faculty to cover a fuller more rational staffing scenario.

More fresh carcasses should be used instead of formalin treated ones at the anatomy practicals. It is anticipated that with an extended co-operation the Departments of Anatomy and Pathology can be provided with an appropriate number of carcasses from the animal shelter.

More veterinarians should be involved in teaching basic subjects of great veterinary importance such as physiology, biochemistry, microbiology, immunology, genetics, and pharmacology.

All last year students should be obliged to rotate through the 24-hr service also during Saturday afternoons and on week-ends.

The faculty should focus on e.g. 4 continuing education programmes annually. These programmes should be financially supported by the faculty/university and might be focused on the core areas in clinical activities (reproduction, intensive care e.g.), food hygiene (food safety control) and marine mammals. The last subject has a world wide attention by students, researchers and the public and might be used to profile the faculty/university globally.

A small number of teaching mares should be purchased and kept at the Cabildo Farm to train senior students in equine rectal palpation. The faculty should make provisions that pelvic organs as well as equine legs can be retrieved from the slaughterhouse so that wet labs can be organised for students to practice recognition of ovarian and uterine structures as well as local anaesthesia and infiltration in case of equine lameness.

Food Science and technology, and food hygiene/inspection and control of foodstuffs require two additional assistant professor positions urgently. This will allow current levels of teaching and practicals to be maintained, the required PhD training to be recommenced and an elective on food safety aspects of fish production developed. Further to this a dedicated technician to assist with preparation of lectures, faculty based laboratory practicals and with administration is needed.

There should be a student counselling service (in addition to the administrative office) where students could ask for help planning their studies if they have fallen behind or fail classes.

An overall system should be put in place to ensure and facilitate agreements on students' participating in clinical activities with private practitioners and to facilitate interdepartmental organization of the agreements with farmers.

Student intake should be adapted to the primarily local needs of the community for veterinary surgeons i.e. at the current time a student intake of around 60 would more than cater for the needs.

To support the leadership potential and the overall management in the VTH a working group including external experts should be established with the aim of planning changes to take full advantage of the potential in the VTH. Including direct employment of all clinical teachers and researchers in the VTH instead of using teachers from other departments in the VTH.



The general low level of technical/support staff should be increased to a level comparable to other modern veterinary faculties.

The number of horses for clinical examination might be improved even taking into consideration the relatively low number of horses available at the island of Gran Canaria (< 2,000). Agreements with local military/police compounds should be investigated and agreements with horse owners to let students do rectal palpations should be introduced.

Introduction of publication activity as a prerequisite of gaining a PhD degree is highly recommended.