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THE TEACHING OF ANIMAL WELFARE IN THE COURSES OF ANIMAL SCIENCE, VETERINARY MEDICINE AND AGRONOMY OF BRAZIL

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ABOUT THE FORUM

The **Fórum Animal** was born out of Sônia Peralli Fonseca's empathy and compassion for animals. Icon in the history of Brazilian animal protection, the biologist began to structure the entity in 1998, registered two years later, with a group of partners of the cause in São Paulo. Since then, we have acted to ensure important advances for animals. Some examples are national legislation setting standards for humane slaughter; a nationwide ban on the practice of keeping marine mammals captive for entertainment; and the inclusion of animal cruelty or abuse as an environmental crime in Law 9.605/98 and in the Federal Constitution itself.

Our multidisciplinary team is made up of veterinarians, lawyers, marketing and communication professionals, geographers and researchers, who support the development of animal protection and defense actions.

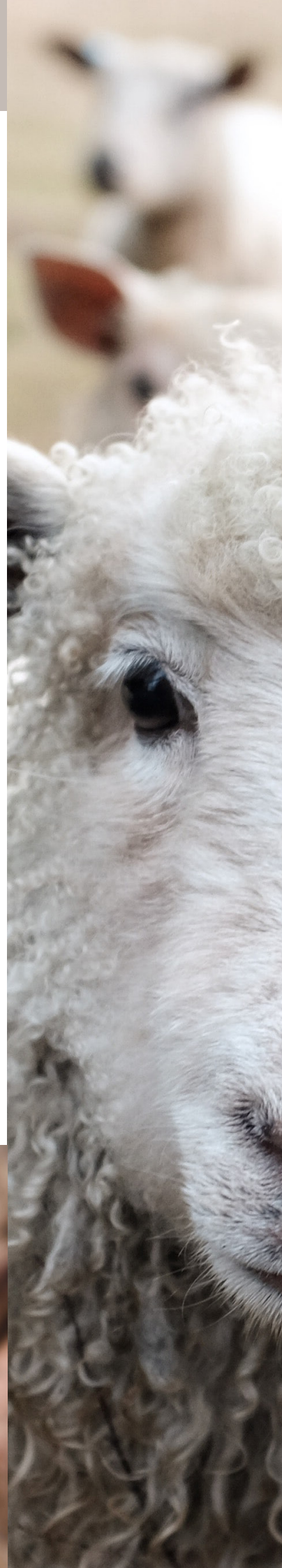
In addition to working with our 114 affiliates, which promote direct care for animals, we maintain a strong presence in the National Congress and Legislative Assemblies to influence the development of Brazilian public policies in favor of animals.

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This material was reviewed and approved by Taylison Santos - Executive Director and Elizabeth MacGregor - President, both from Fórum Animal.





A crucial point to monitor and promote all the changes needed to improve the welfare of farm animals is the training of professionals in animal welfare science. Little is known about the offer and quality of the teaching of this science within Brazilian universities. In Brazil animal production has great social importance so this discussion has particular relevance. In addition to agriculture representing about 22% of GDP, approximately 19% of Brazil's total population declares agriculture as its main occupation, with the highest proportion in the livestock sector (IBGE, 2009). In addition, family farming accounts for a large percentage of animal production, thus playing a fundamental role in the economic and social sustainability of agriculture. Therefore, solutions to farm animal welfare problems need to be culturally relevant and science must play a key role in supporting this area. Efforts to train professionals to meet these changes should be a priority in the current university scenario.

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IMPORTANCE OF ANIMAL WELFARE EDUCATION

As society increases its interest in how its food is produced, concerns on how animals are treated within production systems rises and the animal welfare of farm animals becomes a primary issue for the animal industry. Stakeholders, as governments, academia, research and extension institutes, civil society, producer organizations, private sector and international organizations producers, professionals in the field (veterinarians, animal scientists, agronomists), researchers, food retailers, and even consumers and policy makers, has a shared responsibility with humans and animals to improve the welfare within these production systems. The welfare of farm animals is directly related to some issues of greater social relevance today, such as: sustainable food production, environmental protection, and prophylaxis of new zoonoses with epidemic potential.

To meet this growing demand, it is necessary, among many actions, to train professionals able to identify and solve problems related to the welfare of animals raised for food production. The professionals who work directly with these animals or advise or manage those who care for and treat these animals are, for the most part, graduates of Animal Science, Veterinary or Agronomy. Therefore, it is essential that within their university education, future professionals in the area have subjects related to animal welfare. A recent study (Mijares et al., 2021) in the United States, among university students in the fields of animal science, found that most students agree with the inclusion of the animal welfare module in the curriculum of the course, which they consider to be an important component of their education and very useful for their future careers.



ANIMAL WELFARE MODULE OFFER

Seeking to explore the offer of “Animal Welfare” (AW) modules in higher education courses in Brazil, a search in the curriculum available on the websites of the courses of Animal Science, Veterinary Medicine and Agronomy was carried out.

The National Registry of Higher Education Courses and Institutions (MEC, 2022) shows that there are in Brazil, between public (federal, state, or municipal) and private, the following number of higher education institutions:

**ANIMAL
SCIENCE**

309 institutions
98 public | **211** private

**VETERINARY
MEDICINE**

732 institutions
82 public | **650** private

AGRONOMY

391 institutions
193 public | **198** private



The National Curriculum Guidelines (NCG) for the Course of Animal Science (RESOLUTION CNE/CES No. 4, 2006) and Veterinary Medicine (CNE/CES Resolution No. 3, 2019) establish that the student must be trained to develop competence and skill in animal welfare, that is, they formalize the inclusion of AW subject in the curriculum of these courses. The National Curriculum Guidelines for the Agronomy course (CNE/CES Resolution No. 1, 2006) do not mention animal welfare education among the objectives of the course.



For this study, 150 curricular grids were examined: 36 of Animal Science, 68 of Veterinary Medicine and 46 of Agronomy, a sample equivalent to approximately 10% of each course in the country, distributed as shown in Table 1.

Table 1: Distribution of courses analyzed by the five regions of Brazil, in the public or private category and whether they offer the AW module (mandatory or optional).

	VETERINARY MEDICINE	ANIMAL SCIENCE	AGRONOMY
REGION (N)			
South	13	7	12
Southeast	23	14	14
Midwest	10	7	7
Northeast	16	5	8
North	6	2	5
CATEGORY (N)			
Public	28	22	26
Private	40	13	20
OFFER AW MODULE (%)			
Public	79%	77%	23%
Private	73%	92%	0%

It was found that most of the courses of Animal Science and Veterinary Medicine, 85% and 76% respectively, offer AW module, either compulsorily or optionally, while only 12% of agronomy courses offer the module (Figure 1). However, most offer AW modules associated with other subjects. Few courses offer animal welfare as an exclusive module, that is, without being associated with any other subject (Figure 2).



Figure 1: Offer of AW module as mandatory, optional, or not offered among the higher education courses in Animal Science, Veterinary Medicine and Agronomy, in Brazil.

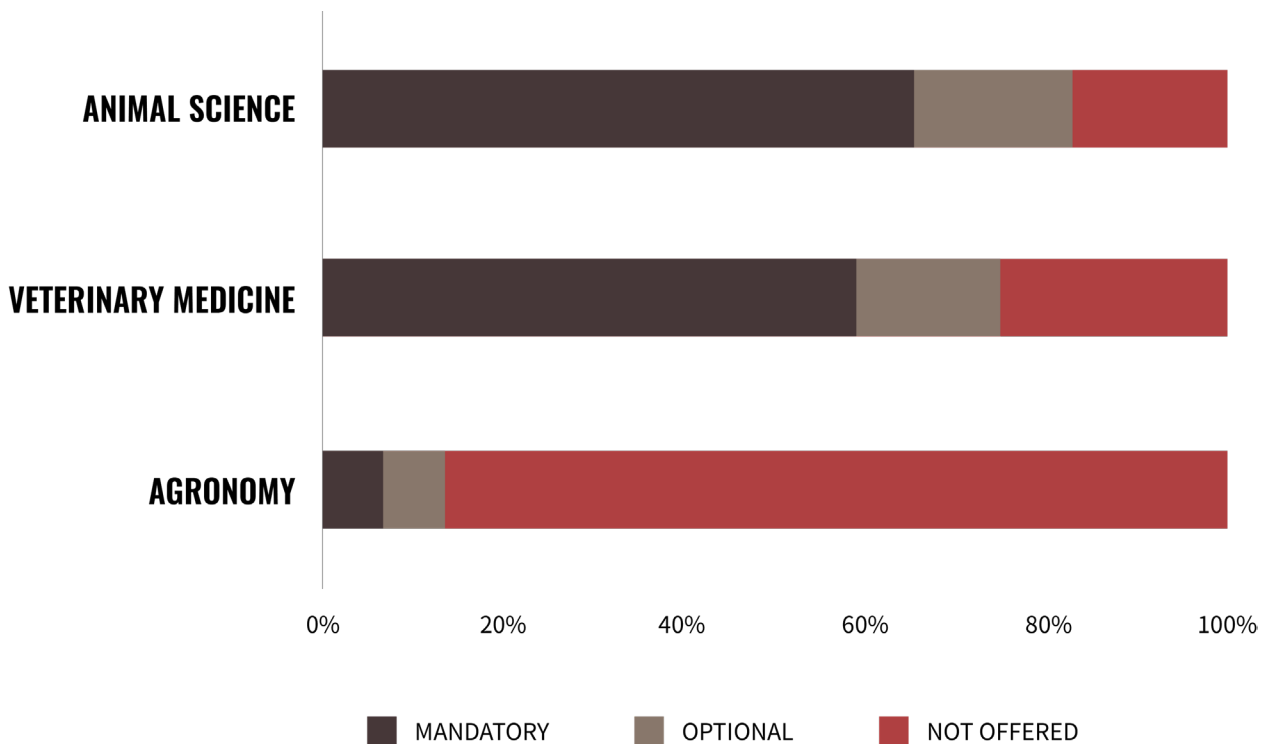
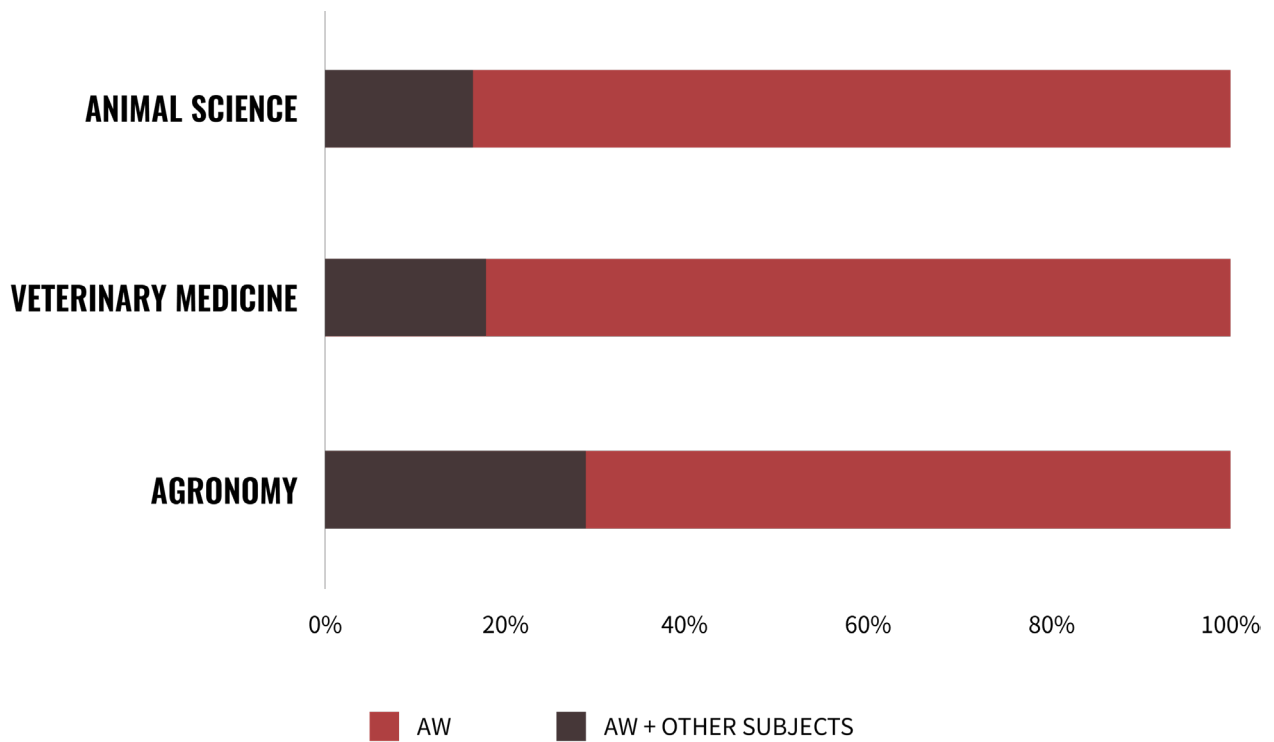


Figure 2: Offer of AW as an exclusive module or associated with other subjects among the higher education courses in Animal Science, Veterinary Medicine and Agronomy, in Brazil.



Veterinary medicine course is the one that most associates different subjects with AW (Table 2).

Table 2: The module “Animal welfare” and its associations, offered in the courses of Animal Science, Veterinary Medicine and Agronomy analyzed in Brazil.

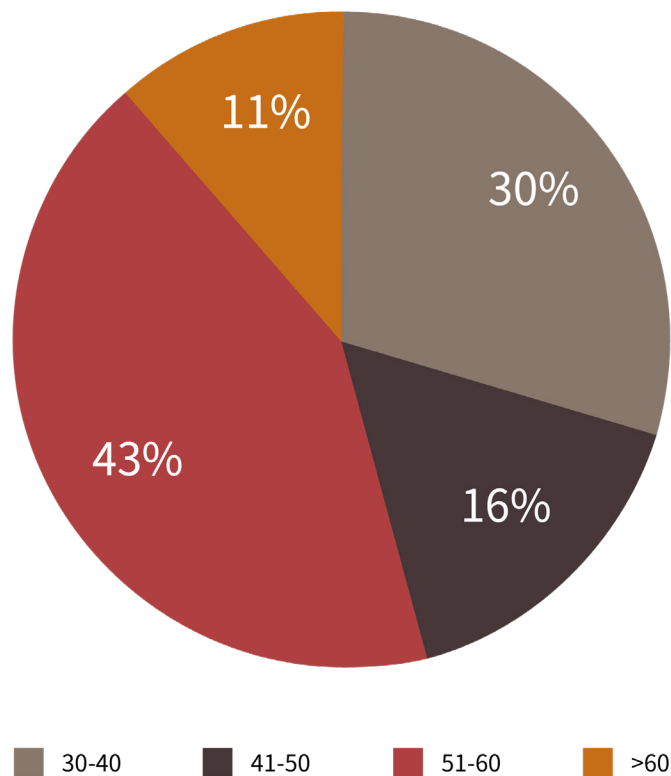
COURSE	MODULE NAME (NUMBER)
Animal Science	Ethology (or Animal behavior) and Animal welfare (18)
	Bioclimatology and Animal Welfare (3)
	Bioclimatology, Ethology and Animal Welfare (2)
	Animal Welfare (6)
Veterinary Medicine	Ethology (animal behavior) and Animal Welfare (18)
	Animal Welfare (10)
	Deontology, Ethics and Animal Welfare (1)
	(Bio)Ethics and Animal Welfare (5)
	Ethology, Bioethics and Animal Welfare (1)
	Deontology and Animal Welfare (2)
	Animal Welfare and Bioterism (1)
	Animal Protection and Welfare (1)
	Bioclimatology and Animal Welfare (5)
	Bioclimatology, Ethology and Animal Welfare (3)
	Environmental Sciences and Bioclimatology and Animal Welfare (1)
	Veterinary Medical Legislation and Animal Welfare (1)
	Animal Welfare Assessment (1)
Health and Animal Welfare (1)	
Agronomy	Ethology and Animal Welfare (3)
	Animal Welfare (1)
	Animal Science and Animal Welfare (1)
	Anatomy, Physiology and Welfare (1)

Less than a third of the courses analyzed had available the programme of study online. Among the main objectives were teaching animal behavior, ambience, human-animal relationship, and productivity improvement but also ethical principles and animal sentience were mentioned.



The workload of the module varies from a total of 30 to 80 hours (Figure 3). In 63% of the graduation courses AW module is offered in one of the first 4 semesters.

Figure 3: Distribution of the total AW module workload: 30-40h, 41-50h, 51-60h and more than 60h, in the courses of Animal Science, Veterinary Medicine and Agronomy analyzed in Brazil.



THE ROLE OF PROFESSIONALS IN BRAZIL AND THE IMPORTANCE OF ANIMAL WELFARE MODULE IN ITS ACADEMIC TRAINING

The area of activity of each of the professionals of animal science, veterinary medicine and agronomy is wide, which may include the academic area or research centers; public or private institutions (extension/inspection/certification); agroindustry; liberal professionals, among others. All these professionals can act directly or indirectly in animal production, according to the competencies and skills provided for in the Curriculum Guidelines of each course.



The Federal Council of Veterinary Medicine defines the actions of the veterinarian as a professional who “acts for the health and welfare of animals, humans and for the sustainability of the environment” and of the zootechnician as a professional who “works in the most varied stages of animal production, working with herds and ensuring food safety and animal welfare”. While the Federal Council on Engineering and Agronomy provides in its code of ethics that “sustainable development should be a priority in professional practice”. In addition, the NCGs of the Agronomy course, despite not providing for the teaching of AW, mention among the skills to be achieved the ability to “face the challenges of the rapid transformations of society, the world, work, adapting to new and emerging situations”.

The demand of consumers for productive systems that consider the welfare of animals, generating healthier and sustainable foods can be considered as one of these “new and emerging” situations that bring challenges and that require coping capacity where knowledge and training in animal welfare is fundamental. As a component of the social aspect of sustainability, society’s values and expectations for farm animal welfare should be integrated into the food production sectors, because only then this sector will have the support of the society and government. After all, in the long-term sustainability depends on the solution of the social problems that are converging and that will converge in the coming decades.

To train students in professional skills that will allow them to prepare scientific assessments of AW is necessary knowledge of various subjects and various approaches. According to Fraser (2006), an initial AW scientific education should include three basic concepts: animal behavior, ethics, and legislation. In addition, knowledge about the mental and emotional state of animals, the importance and types of human-animal relationships and the social context are fundamental in this process.



CHALLENGES TO ENSURE TRAINING IN ANIMAL WELFARE

The fact that private education has become a big business in Brazil has caused the number of existing higher education courses to increase dramatically. One question that has been raised is the ability to find qualified teachers to meet this demand generated by the increase in the number of courses across the country (Wouk, 2021). This issue, coupled with the fact that animal welfare education is still emerging and not valued as it should within the courses, hampers the education with the quality that will allow students to leave the course prepared to fulfill the functions provided as professionals. Therefore, some actions are essential to improve the situation regarding the AW:

- It is essential that animal welfare education be included in the NCGs of the Agronomy course. In addition, all technical training in the area, such as agriculture technician, agricultural technician, and others that are training skilled to work in animal production should also include the teaching of AW in its curriculum.
- It is important that all higher education courses that train veterinarians, animal scientists and agronomists include the AW module exclusively and compulsorily in their curriculum, and if possible complemented with elective modules. Offering the AW module only as optional does not guarantee that all students will be prepared for this skill as is established in the DCN of the Courses Animal Science and Veterinary Medicine.

- It is important that all higher education courses that train veterinarians, animal scientists and agronomists include in their curricula the necessary modules to ensure that training in AW, especially animal behavior.
- It is essential that the competent bodies inspect and ensure that the AW module is included in the curriculum of all courses throughout the country. Although already established by the National Curriculum Guidelines for Animal Science and Veterinary Medicine, there is still a good portion of courses that do not offer this training to their students.

The low availability of online menus on the course sites did not allow a more in-depth analysis of the content offered in the modules. It is a suggestion for future research, to analyze in depth how the teaching of AW is being offered, through interviews and or questionnaires between teachers and students of the final phases of each course, as an attempt to understand how and where teaching needs to be improved in order to deliver to society a professional capable of meeting the challenges and needs increasingly evident to improve the welfare of production animals.



REFERENCES

CONFEA 2022. Professional Ethics. Available on: <https://www.confex.org.br/index.php/atuacao/etica-profissional>. Accessed in July 2022.

Fraser, D. Animal welfare assurance programs in food production: a framework for assessing the options. *Anim Welf*, v. 15, pp. 93-104. 2006.

Mijares, S. et al. Perceptions of animal welfare and animal welfare curricula offered for undergraduate and graduate students in animal science departments in the United States. *Translational Animal Science*, vol. 5. 2021.

MEC. 2022. National Register of Courses and Institutions of Higher Education. Cadastro e-MEC. Available on: <https://emec.mec.gov.br/> Accessed in April 2022.

MEC. 2022. National Curricular Guidelines. Available on: <http://portal.mec.gov.br/component/content/article?id=12991> Accessed in April 2022

Resolution CNE/CES nº 1, de 2 de fevereiro de 2006 - Institui as Diretrizes Curriculares Nacionais para o curso de graduação em Engenharia Agrônoma ou Agronomia e dá outras providências. Publicada no DOU de 03/02/2006, Seção I, pp. 31-32. 2006.

Resolution CNE/CES nº 3, de 15 de agosto de 2019 - Institui as Diretrizes Curriculares Nacionais do Curso de Graduação em Medicina Veterinária e dá outras providências. Publicada no DOU de 16/08/2019, Seção 1, pp. 199 e 201. 2019.

Resolution CNE/CES Nº 4, de 2 de fevereiro de 2006 - Aprova as Diretrizes Curriculares Nacionais para o curso de graduação em Zootecnia e dá outras providências. Publicada no DOU de 03/02/2006, Seção I, pp. 34-35. 2006.

Wouk, A.F.P.F. CRMV/PR. A demografia médico veterinária necessita ser controlada. Available on: https://www.crmv-pr.org.br/artigosView/103_A-demografia-medico-veterinaria-necessita-ser-controlada.html. Accessed in August 2022.





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