

Full Length Research Paper

The last of us? An online survey among German farm veterinarians about the future of veterinary training, livestock farming and the profession in general

Christian Dürnberger

Messerli Research Institute, Austria.

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This online survey investigated how German farm veterinarians perceive the future of their profession. According to the participants, the following topics should play a greater role in veterinary training: Economics, herd health management, practical education, agricultural knowledge and animal welfare issues. The top answer indicates that knowledge about entrepreneurship is seen as a crucial competence of veterinarians. In regard to urgently needed changes in livestock farming, the participants recommend a general economic restructuring, a more fact-based public and political debate, an improved control system, improved training of farmers with a focus on animal welfare and a general critical questioning of performance optimisation. While the common literature focuses on reasons for distress, the survey identified factors for job *satisfaction*: German farm veterinarians recommend their job because of the variety of veterinary work, the contact with animal owners, the contact with animals, economic security, the importance of the work because it is about producing food and the possibility to work outdoors. At the same time, the survey identified a general dark mood when it comes to the future of the profession and livestock farming in general. Veterinarians see themselves as part of a world that is in decline.

Key words: Online survey, German farm veterinarians, veterinary ethics, food production, veterinary curriculum, animal welfare, veterinary education.

INTRODUCTION

Livestock farming is an important element of the human food industry. However, today's western societies - Germany can be mentioned as a typical example, have an ambivalent relationship with current animal husbandry (Boogard et al. 2011). While people appreciate low food prices and increased food safety (Boogard et al., 2008), they are increasingly concerned about animal welfare issues (Krystallis et al., 2009; Kayser and Spiller, 2012;

Busch et al., 2015; Clark et al., 2016; Bergstra et al., 2017; Special Eurobarometer, 2018). For example, confronted with images of common practices in current livestock farming, large parts of the German society assess them as extremely negative (Boehm et al., 2010; Weible et al., 2016). The Scientific Advisory Board for Agricultural Policy at the German Federal Ministry of Food and Agriculture (WBA) sees a general sharply

E-mail: christian.duernberger@vetmeduni.ac.at.

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decreasing social acceptance of livestock farming in its well-received report on the future of German livestock husbandry (WBA, 2015). As a reaction to this loss of acceptance, the Federal Ministry of Food and Agriculture presented its “livestock husbandry strategy” in 2017 (BMEL, 2017). Some voices even call for the abolition of livestock farming: in the tradition of Regan (1983), who argued that non-human animals have specific moral rights because they have to be understood as “subjects-of-a-life”, current German animal ethicists like Schmitz (2016) and also NGOs oppose livestock farming per se, arguing that animals should *not* be kept for food production.

Against this background, the profession of farm veterinarians becomes even more challenging: they do not only have to weigh up the interests of animal patients, animal owners and society as a whole (Tannenbaum, 1993; Rollin, 2006; Morgan and McDonald, 2007; Magalhães-Sant’Ana and Hanlon, 2016; Mullan and Fawcett, 2017), but the corresponding difficult decisions are taken against the backdrop of the described social controversy.

However, while societal perceptions of animal husbandry are often analysed, there are, for example, studies on how certain practices and images of animal husbandry affect German citizens and consumers and what expectations and wishes they have (Christoph-Schulz et al., 2019; Gier et al., 2018; Groß and Roosen, 2018; Grunert et al., 2018; Roosen et al., 2018; Rovers et al., 2018; Sonntag and Spiller, 2018; Rovers et al., 2017). There is little literature on how veterinarians themselves perceive livestock farming in general and the future of their profession in particular. The understanding of their perspectives is largely anecdotal. This research gap was the starting point of this paper: the study aimed at a better understanding of how German farm veterinarians perceive their profession in the described social context. In order to increase this understanding, three initial research questions were asked: (a) From the farm veterinarians’ point of view, which topics and issues should play a greater role in veterinary medicine studies in order to prepare students more adequately for their future job? The answers should show basic self-understandings: What does it take - beyond veterinary expertise - to get the job done in a successful way? (b) As discussed, there is a social controversy about livestock farming. Citizens, consumers, supermarket chains and politics make demands. However, what do the farm veterinarians themselves want? In their view, what should urgently be changed in livestock farming? (c) Finally, would farm veterinarians choose the profession again? Would they currently advise students to choose this profession? And what advice would they give to students who want to become farm veterinarians? These three questions were intended to describe a general atmospheric picture: How do farm veterinarians perceive the future of their profession?

The study is based on a broad understanding of descriptive ethics. While normative works try to provide a justified answer to the question of how to act from a moral perspective (Düwell 2008, 36), descriptive ethics strive for a better understanding of a moral challenge, describing it not only in its ethical framework but also in its historical and cultural tradition (Fischer, 2001; Lesch, 2006). That means, if we want to adequately understand the moral challenges of a profession, we first have to understand its life world.

METHODS

The survey targeted veterinarians who are working (fully or partially) in the livestock sector in Germany. Google was used to identify veterinarians or veterinary practices in the livestock sector in Germany. This research was considered finished after having found around 200 contacts (more precisely: 227). Since the focus of the study is qualitative, this number seemed to be appropriate in order to get enough material for the analysis. These 227 contacts were invited by e-mail to take part in the online survey on www.umfrageonline.com. Furthermore, “MSD Tiergesundheit”, the newspaper “Der HofTierarzt” as well as the Federal Association of Practising Veterinarians (“Bundesverband Praktizierender Tierärzte e.V.”) referred to the online survey. Participation in the study was voluntary and anonymous. No incentive was offered. The participants were informed that the results would be published. The questionnaire was available online between 1 June and 30 September, 2019. The first version of the survey was field-tested in a small group with a special focus on comprehensibility and clarity of the questions. The feedback of this evaluation was integrated into the final version.

The decision to carry out an online survey was taken for pragmatic reasons: potential participants live all over Germany and have tight schedules, making it difficult to invite them to semi-structured interviews or to visit them. An online survey gave them the opportunity to be flexible in terms of time and place to answer the questions. The questionnaire consisted of three parts designed to collect data on the following: (a) demographic data (8 items: gender, age, working in which federal state, with which animals and since when, self-employed or employed, studied at which university and when did the studies end). (b) Moral challenges (2 open and 12 closed questions; see an upcoming publication); (c) Future of veterinary medicine in the context of livestock farming (6 open and 6 closed questions; see below). The results presented in this paper focus on part (c).

The closed questions presented statements requiring respondents to indicate the extent of their agreement or disagreement on a 6-point Likert scale. The given statements were developed on the basis of ethics workshops with veterinarians. The answers to the open questions in the study were evaluated according to the method of qualitative content analysis, following Mayring (2015) and Kuckartz (2012, 78): (a) an initial round of work on the texts, in which important passages are marked, is followed by (b) the preparation of a first draft setting out a system of main categories. The first test run checks the general adequacy of this system. (c) The material is coded to reflect the categories. (d) All text passages coded with the same category are compiled. (e) Working directly on the raw material, subcategories (if appropriate) are obtained inductively, and further tests are conducted to check and refine the system of main categories and subcategories. Finally, (f) the material as a whole is coded, using the differentiated system. At this point, (g) the discussion of the results can begin. In regard to the open questions, the current survey followed these to a

Table 1. Teaching contents of growing importance.

Question: "Which topics and questions should play an increasing role in veterinary studies in order to adequately prepare farm veterinarians for their job?" (n=72)	1) Economics (n=32)	2) Herd health management (n=25)	3) More practical training (n=21)
	4) Agricultural knowledge (n=16)	5) Animal welfare (n=13)	6) Communication (n=11)
	7) Law (n=10)	8) How to run a practice (n=9)	9) Psychology (n=7)

steps. The answers to the open questions were also evaluated quantitatively. However, since specific answers can often only limited extent be clearly assigned to a certain category, such information only gives an approximate impression of the quantitative distribution. The survey was conducted in German. When veterinarians are quoted in the text below, these statements were translated from German into English.

RESULTS

Demographic data

A total of 123 participants took part in the study (thereof approximately 51% female). The average age of the participants was 45.39 years. On average, the participants have been working as farm veterinarians for 16.39 years. Multiple selections were possible for the specific field of activity: most of the participants (approximately 92%) stated that they worked in the field of cattle farming; 33% stated that they worked with pigs. About 50% of the participants stated that they were self-employed with salaried employees; about 35% stated that they were employed and about 13% that they were self-employed without salaried employees. 89% of the participants studied at German universities. The participants are working in twelve different German federal states. The "front runner" is Bavaria with 33%, followed by Lower Saxony with 20% and Nordrhein-Westfalen with 13.9%. No significant differences were observed between demographic data and the answers are presented below.

Teaching contents of growing importance

In an open question, the participants were asked which topics should play a greater role in veterinary studies to adequately prepare students for being a farm veterinarian (n=72). The nine most frequently mentioned answers are discussed next (also shown in Table 1):

(a) Economics

The most common answer can be subsumed under the category *economics* (n=32). There is a need for "business management training"; "business management topics" should be taught more often and more intensely. Expertise about "business management" is required: "Only those who have basic knowledge are at all times

able to take over and manage a practice without losing a lot of money." "Basic economic knowledge" should therefore promote "economic efficiency in veterinary practice".

(b) Herd health management

In their answers to this question, participants repeatedly raised the issue of *herd health management* (in German: *Bestandsbetreuung*) (n=25). There should be a "greater focus on herd health management" in veterinary training. The veterinary competencies taught at university should "not be limited to curing diseases but should focus on fighting the root causes". One issue that was frequently mentioned and can be subsumed here is "feeding". For example: "Practical animal nutrition (not just tables and figures!) and its effects on the animals" should be taught.

(c) More practical training

In general, study participants demand *more practical training* (n=21): "Overall [a] better professional practical preparation" is needed. "Topics and questions are theory. Much more practical training/internships should be carried out in the course of the studies, similar to those in human medicine." Students should "learn many more practical skills" and have "more practical training on animals and at farms". Correspondingly, more "internships" and "altogether more practical training" are repeatedly called for because "there is a huge difference between university and practice!" "Since these topics and questions can hardly be clarified in a lecture, more internships should be done and enough time for them should be made available." According to one participant, more practical training also means that "treatment options at different levels" should be taught, that is "not only the 'gold standard', but also cost-effective alternatives".

(d) Agricultural knowledge

General *agricultural knowledge* should play a greater role in veterinary medicine studies (n=16). Here, too, the topic "economics" is important: students should be able to understand the "economics of agriculture" and the "cost-benefit calculations from the perspective of the animal keepers". They should have a "better basic knowledge of agriculture and its financial possibilities or limits".

Table 2. A separate study programme for farm veterinarians.

Statement (S)	(1) I totally agree (%)	(2) I agree (%)	(3) I agree somewhat (%)	(4) I disagree somewhat (%)	(5) I disagree (%)	(6) I totally disagree (%)
S1: "Of all the knowledge I have acquired during my veterinary studies in the field of 'farm animals', I basically only need a few things in my current professional life." (n=78; \bar{X} :3.51; SD±1.43)	10.26	15.38	24.36	17.95	26.92	5.13
S2: "There should be a separate study programme for farm veterinarians that only give them an understanding of the relevant aspects of the future professional field." (n=78; \bar{X} :3.82; SD±1.64)	7.69	20.51	15.38	15.38	20.51	20.51

However, not only business management aspects but also "agricultural realities" in general should be taught to a greater extent. Students should gain "basic agricultural knowledge (feeding, husbandry, milking)"; they need "agricultural training (...) to understand the production processes". Through this knowledge, they "learn to analyse the everyday problems of a farm...". With regard to training, one participant wrote as a kind of summary: "It should be a mix of agriculture and veterinary medicine, as diseases can only be understood and solved in a systemic context."

(e) Animal welfare

Participating veterinarians demanded more training on *animal welfare* issues (n=13). Various keywords like "animal welfare" or "animal protection" were mentioned here. A participant wrote that courses at veterinary universities should generally teach in a more intense way "that animals suffer, show pain and have emotions!!!".

(f) Other issues

The demand for *communication* (n=11) as a more important part of the training is usually exhausted in this keyword. If it is explained, it is stated that one should learn to "communicate more effectively"; that "training in communication with owners" was necessary. The required training in *law* (n=10) should comprise, among other things, more "labour law", the "legal situation" in general or "legally compliant action". Repeatedly, more training in *how to run a practice* was mentioned (n=9). This demand is closely linked to the already mentioned point *economics*, but the participants also discussed aspects beyond this: topics such as "employee management", "customer management", "founding a practice", "time management", "stress management", "organisational topics", "project work" or even "marketing" of the practice appeared here. The demand for more *psychology* (n=7) in veterinary medicine studies requires interpretation. The study participants mostly did not

explain this term. However, it seems plausible that the one explanation found in the answers can be regarded as typical: more psychology in the studies should help to "recognise the animal owner in their constraints". Generally speaking: "Psychology" aims at an adequate understanding and better handling of conflicts with animal owners.

A separate study programme for farm veterinarians?

Participants were asked to agree/disagree with the following statements in Table 2. The participants had the opportunity to comment on these closed questions. In these comments, there was a clear tendency: While specialisation is seen quite positively, a separate study programme for farm veterinarians is viewed critically: "At least more specialisation at the end of the studies should be made possible...". Or: "The conditions in livestock practices are changing rapidly, highly specialised practitioners will be needed. Veterinarians who cover everything are the exception rather than the rule." One participant replied: "I could well imagine a structure of the study programme based on a modular principle. A basic programme (maybe Bachelor) for everyone and then, for election, a Master's degree in Farm Animal Medicine with food, one for small animals and one for horses. However, on condition that one can do a Master's degree for one of the other animal species later in life – depending on how life develops –, you can adapt your profession, if necessary." One participant wrote: "I am a great friend of the undivided license to medicine, but nevertheless, the livestock sector must become more present at universities. It is not acceptable that you don't see a cattle claw in the whole course of your studies (except for optional electives). But a completely separate study programme is not bearable to me."

In these answers, it already becomes apparent that a separate study programme is viewed critically. This has also been explicitly stated in some comments: "On the question of whether there should be a special study programme for farm animal practitioners: I do not think that the study programme should be split up and that

graduates should be tied to a specific professional direction, but I do think that farm animal medicine, especially the care of livestock, should be further developed in the study programmes. In Copenhagen, there was one semester in the last year in which you could 'specialise' in one direction without being tied to it later. I think this is a very good approach." One participant replied: "As a student, you have to gain a good basic understanding of why and how things happen and interact physiologically. After that, there is so much to learn, whatever you want to specialise in. You find that, if you know something well, you can see parallels in other things, and then you have to learn the species-specific characteristics. But there must be a basic understanding!" Also, pragmatic reasons have been mentioned: "It is good that you can do anything after your studies. You never know where you will end up. Never specialise too soon." One participant put it like this: "Veterinarians must continue to be trained omnipotently!!!" Another participant wrote: "Real doctors treat more than one species!!!!".

What should be changed in livestock farming?

Participants in the study were asked: "If there are things that, in your opinion, need to be changed urgently in current livestock farming – what is that and why?" It was explicitly pointed out that this question referred to livestock farming in general, not necessarily to the veterinary profession (n=73). The answers show clearly: the participants wish for better conditions for the farm animals. The vast majority of answers can be traced back – whether directly or indirectly – to the demand that the farm animals should be better off in the stables. The main specific issues that were explicitly mentioned are an end to (permanent) tethering (n=5), a limitation of herd sizes (n=5) and the demand for animal-friendly solutions for interventions such as castration or dehorning (n=5). Furthermore, the participants discussed fundamentally necessary changes in the agricultural sector. The essential ones are described in the following.

(a) Economic restructuring

Participants discussed aspects concerning a necessary *economic restructuring* of the sector (n=25). Different actors were addressed: (aa) The essential role of *consumers* was underlined – and viewed critically: consumers demand a different kind of agriculture but are not willing to pay for it. "Consumers should also be willing to pay for their demands." What is needed is "an appropriate level of awareness of the end product among the population and a return of appreciation for a high-quality food product. It certainly cannot be that milk is cheaper than water in the supermarket. In my opinion, until that happens, not much can change in agriculture".

(bb) In this context, *farmers* were described, above all, as actors who are under great financial pressure and have, therefore, little room for manoeuvre: "Higher yields for producers" are necessary. "The economic pressure on farming businesses is too strong..." Farmers must be "significantly better paid" because "if the farmers get more money for their goods, 99% will automatically provide better conditions in their stables". (cc) The role of *food trade* was addressed similarly to the one of consumers: its importance was emphasised and its actions criticised. "The food trade (...) must not determine everything. The prices of the products must be higher." The money spent on food should not "disappear in large commercial enterprises"; "retailers should not be so powerful to drive down milk and meat prices". (dd) Some of the demands regarding a financial restructuring process also addressed *politics*. For example, one participant called for "higher prices of the end products paid by the consumers. If necessary, enforced by the state". Basically: "Society and politics must say what kind of animal husbandry they want..."

(b) Change in the public debate

It is not only about concrete practices – the public debate on farm animal husbandry also needs urgent changes (n=13). Farm veterinarians called for a science-based discussion: "The public debate must become more knowledge/fact-based! For that reason, school education must change..." No "ideologies should be pursued – scientific expertise must come first". It was stated that there should be a higher acceptance of livestock farming: "The acceptance of agriculture in general and the recognition of the great performance by our food producers must be raised." How could this be achieved? – Among other things, through more public relations work to inform the public about the realities of agriculture: the sector has to "advance public relations (and) explicitly educate consumers about modern systems". "Effective and collaborative public relations efforts would be great to provide a realistic picture of agricultural livestock farming." "Consumers should understand why and how we do what we do and pay more for good products."

(c) Improved control system

Several answers (n=11) can be subsumed under the category *improved control system*. What is the demand? – More controls, stricter controls, unannounced controls and other controllers. There is a need for "more controls" because "more controls by state authorities would certainly contribute a lot to animal welfare, but unfortunately such controls are far too rare!". It would be desirable to have "closer controls of farms and also hobby farms by the competent authorities, especially in

the case of already known infringements. In our region, cattle farms are inspected every 10 years on average". Especially "animal welfare criteria must be controlled much more strictly and with more motivation". There is a need for "controls worthy of the name, and not just paper checks, especially in slaughterhouses and livestock trade". "Unannounced controls of herds by the veterinary office (in particular calf husbandry, overcrowding)" are necessary. In the previous quotes it has already been mentioned that the participants would like to see more controls by state authorities, which are perceived as more independent. This wish was also explicitly expressed in some of the statements: "Away with QS, QM and what they all are called. We need an inspection clearly once a year by the responsible veterinary office. Notification four hours before is, in my opinion, sufficient to catch the big bad guys. The practitioners cannot take over these controls and other inspectors lack the knowledge of the animal protection law."

(d) Improved training of farmers with a focus on animal welfare

Participants would like to see *improved training of farmers with a focus on animal welfare aspects* (n=10). This topic should be more important than it has been so far in farmer education. For example, the following statement criticised shortcomings: "The training of young farmers is far too much dominated by economic objectives." What is missing? There is a need for "better training of full-time farmers with a commitment to regular further training in the areas of husbandry, feeding and animal protection/animal welfare". "The training of those involved with farm animals should be improved" "The know-how of farmers with regard to disease prevention should be reviewed" Some required a "certificate of competence" when it comes to keeping of farm animals.

(e) Critical questioning of performance optimisation

Participants came up with a fundamental rethinking: They demand a *critical questioning of the "bigger, better, faster" attitude*. (n=9). What do they mean by this? Basically, it is about stopping "striving for higher, faster, further – that is: more output...". Agriculture should "stop the constant striving for more and greater things!". If this demand is substantiated, it is about the demanded performance, which means the output of animals. The system must move "away from higher and higher milk yields". "The performance limit of the animals has been exceeded, the bred animals must become more robust again. 15,000 L milk or 40 piglets per sow/year are not the goal." Agriculture should "turn away from difficult breeding goals: extreme performance also means extreme susceptibility to a variety of factors". This thought

comes up repeatedly: the "too strong focus on performance in breeding" is problematic because "this (causes) production diseases". One veterinarian wrote: "The performance of the animals (milk and fattening) must decrease because the metabolic stress is extremely high. Farmers are often not able to meet the required feeding and husbandry conditions, or these requirements cannot be fulfilled at all, and as a consequence, the animals are sick and suffer. It must be recognised that it is much easier to keep animals healthy that do not deliver a top performance, even if the environment and feeding are not optimal. Rethinking must begin in the minds of farmers, who are unfortunately still too much 'calibrated' by their advisers to improve the output. More animals and a higher performance cannot be managed by the vast majority of farmers, and this misjudgement of their own abilities leads to many health problems and, consequently, to animal suffering."

Recommending the profession?

Participants were asked to what extent they would choose their profession again (Table 3). In an open question, the participants (n = 77) were asked: "Would you currently recommend students of veterinary medicine to become a farm veterinarian? Why or why not?" About 60% of the answers can be subsumed under *yes*; about 30% can be subsumed under *no*.

(a) Reasons for recommending the profession

Participants recommended the profession by referring to the *pleasure of the work itself* (n=25). The "job is fun", it is a "varied activity", with a "wide spectrum." It was pointed out repeatedly that the profession is "multifarious". "The veterinary profession is still incredibly exciting and versatile." There is "never routine at work, it is always exciting".

Participants rated the *contact with farmers positively* (n=10). Veterinarians deal with "predominantly nice farmers". "Farmers are grateful and 'faithful' when good work is done." Veterinarians are "usually dealing with nature-loving, down-to-earth people in the countryside". "I enjoy working closely with farmers..." Farmers are "significantly more pleasant customers than small animal owners".

Participants describe the job as *economically secure* (n=8). The occupational field is "economically safe!". With "hard work and dedication you earn a very good livelihood". There is "fair payment, especially in the pig sector"; in the livestock sector one can "with absolute certainty find a well-paid job". Comparisons are made with the small animal sector: one participant recommended the livestock sector because "there is an urgent need for young professionals and you can also

Table 3. Choosing the profession again.

Statement (S)	(1) I totally agree	(2) I agree	(3) I agree somewhat	(4) I disagree somewhat	(5) I disagree	(6) I totally disagree
S3: "I would choose a career as a farm veterinarian again." (n=78; \bar{X} :2.31; SD \pm 1.48)	41.03%	24.36%	11.54%	14.10%	3.85%	5.13%

make more money than in the hundreds of small animal practices in the Munich suburbs".

Participants emphasised the *gladdening contact with animals* (n=6). "The cow is one of the best things that could happen to mankind." My "heart hangs in the cattle barn and I would always choose the profession of a cattle veterinarian". There are "great animals" to deal with. "I like working with cows..." Or: "Because cows, pigs and poultry are great and exciting animals."

The answers discussed so far have been the focus, however, other reasons were occasionally given. For example: You can *really help the animals*. "Farm animals have a much too small lobby, for my feeling. Our commitment helps them to have a voice, and to be that voice is my life task." Participants would recommend their profession since it is about the *important good "food"*: "We all cannot live without food and drink. The veterinarians are part of the food production. Through our work we can also provide healthy food." Further, the job means to *work outdoors*: Farm veterinarians work in the "beautiful landscapes of Germany", the job is "outdoors", farm veterinarians are in the "fresh air".

(b) Reasons against recommending the profession

A topic that frequently appeared in the "no-answers" was the *societal, political criticism of livestock farming* (n=14) that could even lead to the end of this industry as a whole. The "pressure from politics and certain circles of society on agriculture, and thus on veterinarians, will increase in the future; the relationship is already today marked by mistrust and speechlessness. Although farm veterinarians are in demand on the job market, animal production is no longer wanted in Germany and will inevitably move abroad". "The livestock sector (is) more or less a discontinued model due to the current political situation." Livestock farming has "no future" in Germany. One participant wrote: "I assume that, due to the social demands on agriculture, it will largely disappear from the Central European countries within the next 25 years."

Another argument against the profession was that *earnings are too low* (n=7). The profession is not recommended "because, due to an incredibly high workload, you have relatively little time for other things in life and earn relatively little at the same time". "The income opportunities [are] better in other academic professions." "The high personal involvement is not reflected in the salaries of employed veterinarians."

The participants also talked about *fundamentally poor working conditions* (n=7). As long as "nothing is done to improve the working conditions for assistants (binding salary guidelines, working time records, paid overtime, ...) the job is uninteresting". Among other things, the following was criticised: "With working days between 10-12 h (as a rule!, it can also be more), in addition to on-call services, working every second weekend/holiday (of course without compensatory time off), being available at any time, unpaid overtime at very moderate pay, no appreciation of the work, as a rule also without having ever signed a work contract – one would rather look for a job far away from (farm animal) practice!"

The *legal situation was criticised* (n=4) and seen as a reason why the profession is not recommended: "Especially in the field of farm animals there is a discrepancy between legal requirements and reality (don't we all already have one foot in prison?)." "The legal obligations do not meet the requirements, they are divorced from reality, cannot be implemented; you cannot win."

Other topics were also addressed by individual participants. The *work is hardly medical*: "Many treatments [are done] by farmers. Now the work is more stock management, less medical." The veterinarian is a mere "medicine delivery service". The *work isolates the veterinarian*: "You work alone, you are permanently alone in the car, and in front of farmers you are usually alone with your opinion. You need a great deal of self-confidence and assertiveness!" The *increasing bureaucratisation* makes the job more difficult and not recommendable: "Documentation work at the end of the working day is unattractive." And finally, *dealing with farmers* was described as *strenuous*: there is "hardly any cooperation with the farmers. We are just a readily available service provider". When asked if they would recommend the profession, a participant answered: "No, no and no again. It is enough that I have wasted my life on the peasant pack."

Advice to future farm veterinarians

Participants were asked: "What advice would you give to young veterinary students who want to work in the livestock sector in the future?" (n=68).

In the answers, basic recommendations appeared such as: "There is no better profession than being a farm veterinarian. You can look forward to a great, interesting

and varied professional life.¹ Everything else that is told are fairy tales or horror stories by people who would not love another profession either.” But there were also warning voices advising against the profession, like: one should “study something else as quickly as possible”. In addition to these basic recommendations, there were also concrete suggestions. Three were mentioned particularly frequently.

(a) Choice of practice

The young veterinarians should think carefully about which practice they want to work in (n=20): Where do I learn most and where are the working conditions good? They should choose a “practice where people are willing to impart knowledge”. “In the beginning”, they should “work (in a practice) where there is good veterinary practice”. However, it is not only a question of where a young veterinarian is able to learn a lot but also a question of personal interaction and working conditions. One participant advised: “Look for a workplace where you find personal appreciation.” The supervisor is particularly important: “If you are not lucky enough to find one of the few good bosses, change the job as quickly as possible!” If young veterinarians consider working in a practice for a longer period of time or even founding one themselves, there was also advice on this: “Never try to run a large animal practice alone. It eats you up.” The recommendation was “no one-man practice, only as a team” because “a one-man practice is a discontinued model”.

(b) Internships

Students should do internships, ideally in veterinary practices as well as on farms (n=17): they should “do much internship, not only with a veterinarian but also on farms, to get an understanding of agriculture”. The rule is: “In any case, do an internship beforehand and prepare yourself for what awaits you there.” One should “do a lot of internships, maybe even on a big farm”.

(c) Detailed self-test

The advice on internships already contains an implicit advice that is also explicitly articulated: students should think carefully whether they really want to do the job (n=9). In other words, students should ask themselves whether they have enough “idealism”. They should “find out exactly what kind of stress the job entails”. Students should have “a good understanding of what’s coming”. One answer reads as follows: “If someone wants this with their heart and soul, they have to know that this cannot

be an eight-to-five job.” Future farm veterinarians “should know that ‘profession’ [*Beruf*] comes from ‘mission/calling’ [*Berufung*], and they should only make this decision if they are really sure they know what they are getting into. When you do farm animal practice, you are not doing much else, and you are living a slightly different life than most people”. It is important to “think twice whether you have enough idealism and resilience”.

DISCUSSION

The online survey investigated how German farm veterinarians perceive the future of their profession. For example: Which topics and issues should play a greater role in veterinary medicine studies in order to prepare students more adequately for their job? What should urgently be changed in livestock farming? Would they choose the profession again? Would they currently recommend students of veterinary medicine to become a farm veterinarian? Questionnaires focusing on open questions are explorative in nature. So, the survey can only provide an explorative insight into the lifeworld of German farm veterinarians. It thus creates an initial database that allows hypotheses to be framed, points to be made towards further (representative) studies, and generates new research questions.

The question of which topics should play a more important role in veterinary training in order to prepare future farm veterinarians adequately for their future job showed different roles and self-images of veterinarians, if not even a shift of these roles and self-images. More precisely:

(a) Participating veterinarians recommended that subjects concerning economics and practice management should be taught more intensively. The role that is addressed in these answers (and which should be more taken into account in veterinary training than it has been the case so far from the participants’ point of view) is the role of the veterinarian as an *entrepreneur*. Knowledge about entrepreneurship has been identified in various studies as a crucial competence of veterinarians (Bachynsky et al., 2013; Bok et al., 2014; Cake et al., 2014; Cake et al., 2016). German farm veterinarians join these voices that underline the importance of the corresponding skills.

(b) Another top answer calls for more knowledge transfer around herd health management. Veterinarians should be better trained to see the “big picture” of a farm instead of focusing only on individual patients. These results can be interpreted as a typical sign of a structural change of the profession: a shift from curative individual animal care towards herd health management can be observed worldwide in the livestock sector (Mee, 2007; Gerber et al., 2020). While curative practice focuses on treating sick animals, herd health management means that the veterinarian is mentoring the whole farming business with

¹ In the original German quote, the word “Beruf(ungs)leben” was used here, which is a wordplay. “Beruf” means “job”, “profession”. “Berufung” means “mission”, “calling”.

a view to animal health and other aspects. Exemplary questions are: What can be improved in feeding or ventilation in the barn? Which considerations are decisive for the farm in terms of genetics? Ideally, this permanent management prevents curative emergencies as much as possible. The given paper suggests talking about a kind of shift – not replacement – of self-understanding, which can be described as follows: a shift from the veterinarian as a *healer* to a kind of *health manager*. (To describe this shift in an extreme way: While the healer is paid for every sick animal they treat, the health manager could be paid for every animal that does *not* get sick.) The survey indicates that German farm veterinarians recognise this shift as a structural change of their profession.

(c) Since not everything that is crucial in the job can be taught at university, farm veterinarians call for more practical preparation. In this argumentation a role is addressed that the given paper proposes to be called *craftsman*: being a farm veterinarian means more than having theoretical knowledge; it also means having certain practical skills to apply this knowledge. These practical skills can only be learned through practice.

(d) Participants wish that agricultural knowledge should play a greater role in veterinary training. Hall and Wapenaar (2012) diagnosed that farm veterinarians describe themselves *inter alia* as “independent advisers” to farmers and “friends of farmers”, however, the results of the given survey pose the question of the extent to which farm veterinarians even see themselves as *part of agriculture*. This thesis can be derived not least from the other parts of the survey: farm veterinarians see themselves as a profession that is located in agriculture, that is, in food production. Participants repeatedly pointed out that they were working in the food production sector, speaking of a “we” when talking about agriculture or livestock farming.

(e) Participating veterinarians are calling for better training on what is generally seen as their core task: the veterinarian as the *advocate of animals* stands up for the interests of the animals. Accordingly, questions concerning animal welfare should play a greater role in the training.

(f) In the demand for more “communication” or “psychology”, there is a hint that being a veterinarian is also a communicative activity: the veterinarian as a *communicator* means that in this job you are confronted with people (animal owners, but also colleagues, employees, superiors or official veterinarians) with whom you have to enter into a – sometimes conflictual – dialogue. Even if “communication” and “psychology” are not top answers in this survey – these contents are still demanded by the participants. So, the answers of German farm veterinarians are in line with other surveys that underlined the importance of communication skills for veterinarians (Bristol, 2002; Gilling and Parkinson, 2009; Hodgson et al., 2013; Jaarsma et al., 2008; Rhind et al., 2011).

The demand for new and in-depth teaching contents shows the veterinarians’ awareness of the diversity of their roles. In particular, it shows that veterinarians know that theoretical medical expertise is only the basis of the profession, but far more skills are needed to get the job done. Furthermore, one outcome is worth mentioning: “ethics” is not among the top answers. Only a few participants used this term when asked in an open question about the subjects which should be more important in veterinary training. Several follow-up questions and interpretations are conceivable, for example: Does this outcome have to do with the average age of the participants (45.39 years)? Most of the participants have worked in this profession for a long time. Have they developed such good strategies to cope with moral challenges so that they do not see the necessity of ethical reflection? Furthermore, it can be assumed that the older participants did not get into contact with “ethics” during their training. Do they not demand “ethics” because they do not know that this subject may have something to do with their profession? But there is still another possible interpretation of why “ethics” is not required by the participants: maybe the most (!) urgent problems German farm veterinarians have in their daily work are simply not moral problems. However, the fact that “ethics” was not demanded should be examined more closely in future. In particular, it should be compared with similar but closed questions: if veterinarians are asked how important “ethics” is for their training, higher approval rates can be expected. But then the question arises what veterinarians understand by “ethics”. A study among official veterinarians showed that some understand better communication skills and an improved handling of media as “ethics” (Dürnberger, 2019a).

Veterinarians are repeatedly described as “advocates of animals” – but there is hardly any empirically based knowledge about the urgent improvements they want and demand in livestock farming. The study shows: In addition to concrete improvements – such as an end to (permanent) tethering – veterinarians demand, above all, changes to the system. (a) With regard to livestock farming, the veterinarians would like to see more financial leeway on the part of the animal owners. The farmers are lacking money. This economic pressure also affects the veterinarians – and of course the situation of the animals. Here, a crucial challenge of the profession becomes apparent: the veterinarians would like to treat the animals differently, but they are prevented from doing so by external obstacles – first of all the narrow financial framework of the livestock owners. In order to change this, the veterinarians consider that consumers, trade and politics have a duty, above all. All three actors are described rather negatively at this point: They do not fulfil their responsibilities or act only in their own interest.

Since politics is also repeatedly criticised at other points of the survey, the question arises to what extent

German farm animal practitioners show a kind of “disenchantment with politics” that is generally characterised, among other things, by a low level of trust in the morality, competence and assertiveness of the political sphere (cf. Arzheimer, 2002). (b) The veterinarians also call for a different kind of social debate about farm animal husbandry. At this point, it becomes clear that German farm veterinarians see themselves in a very similar way to the way German livestock farmers see themselves in the discourse (Dürnberger, 2019b): farmers and veterinarians sketch a part of the society as a group that has little knowledge about livestock husbandry, has lost touch with agriculture and food (production) and is influenced by other stakeholders who – from the farmers’ and veterinarians’ perspective – unfortunately dominate the debate on livestock farming. They feel that those involved in agriculture must themselves be heard as one of the most important voices in any social debate about agriculture. (c) In addition, farm veterinarians also have concrete suggestions for improvement with regard to the system. First of all, the control system must be changed: more checks, stricter controls, unannounced inspections and more controls by state authorities are needed. Furthermore, animal welfare should play a greater role in the training of farmers. On this issue, mandatory further training is also proposed – an issue that is controversially discussed in Germany. Finally, veterinarians warn against a “more, more, more” way of thinking. Many of them describe this permanent performance optimisation as a dead end – and it is at the expense of animal health. According to participants, the animals’ performance limits have been exceeded.

Finally, the study tried to survey a general atmospheric picture through questions whether veterinarians would choose the profession again or whether they would advise students to become farm veterinarians, and if so, what advice they would give to the youth. The advices are among others: They should know exactly what they are getting into. This requires direct contact with the job, for example through internships. The job can only be done successfully if veterinarians are convinced of what they are doing. It takes idealism, not least. After all, it depends on the concrete environment: Which practice? Which working hours? Which boss? Which team? These answers show what other studies also suggested: the role of team in the veterinary workplace is important when it comes to job satisfaction (Moore et al., 2014).

Bell et al. (2018) argue that there is little literature on what increases veterinarians’ job satisfaction because the literature focuses on distress and burnout. The results of this study can provide at least rough answers: Why do farm veterinarians recommend their profession, that is which facets do they like about it? They appreciate inter alia the variety of veterinary work (Cake et al., 2015), the contact with animal owners [similar for companion animals: see Shaw et al. (2012)], the contact with animals and the possibility to help them [(similar to Cake et al.

(2015)], but also economic security, as well as the importance of the work because it is about producing food and the possibility to work outdoors. So, German farm veterinarians describe their own profession as challenging, beautiful, important and satisfying. Correspondingly, a majority of the participants would choose this profession again: 41% agree completely, 24% agree.

However, aiming at a general atmospheric picture of the profession, one big issue must be mentioned: in quite a few answers there is a dark mood when it comes to the future of the profession and livestock farming in general. Naming this mood, this paper poses a question in its title from the perspective of farm veterinarians: *Are we the last of us? Are we working in the evening twilight of the profession?* Farm veterinarians see themselves as part of a world that is in decline, because from the point of view of some participants, it is possible that livestock farming will disappear from Germany in principle. The answers tell of working in and for a discontinued model that is no longer wanted, of a great deal of social mistrust, of the fact that livestock farming will move abroad and that it has no future in Germany anyway. The sometimes low earnings, the many hours of work, the difficult work-life balance, the laws that are almost impossible to comply with... all this seems less important in comparison to this gloomy prognosis. The perception that one is working in a business that is less and less wanted by German society seems to be a pressing issue and the main stressor.

Veterinary ethics that has the claim to accompany veterinarians in reflection processes must know the lifeworld of the veterinarians. The study shows that some veterinarians find the declining societal acceptance of livestock farming problematic and stressful. Accordingly, this topic should also be dealt with in ethics seminars, creating space for veterinarians to discuss issues that are bothering them. Further, the survey gives hints on improving the study programme or further training courses for farm veterinarians. In particular, training courses about concrete practice management skills should be offered. It is recommended that prospective veterinarians who are about to choose a branch get a better insight into the actual everyday life of a veterinarian. Accordingly, more internships are demanded. Politicians and legislation should recognise farm veterinarians as a professional group that, despite its status as experts, feels ignored in the decisive discussion processes.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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