



Original Contribution

COMPARATIVE VETERINARY HYGIENIC EVALUATION OF STRAY DOG SHELTERS AND THEIR CATEGORIZATION

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ABSTRACT

A comparative veterinary hygienic evaluation of two shelters for stray dogs has been performed. The evaluation included all-important elements related to the rearing of this category of dogs. On the basis of a special questionnaire, a classification of kennels was made with regard to assisting their activities and reduction of stray dog population.

Key words: dogs, kennels, veterinary hygienic evaluation, categorization.

INTRODUCTION

The veterinary hygienic assessment of animal farms (in this particular case, kennels) is performed with regard to establishing the hygienic and technical parameters provided in the technology (1) According to many authors (2, 3, 4) this assessment allows a timely determination of deviations from the rearing system and therefore, contributes to promoting the health of dogs. The performance of the evaluation visit and the veterinary hygienic assessment could be realized after invitation from the kennel's owner to the evaluator veterinarian (5). This is a common practice in countries with developed cynology, where there is risk of amenability for the kennel's owner if the kennel does not conform to veterinary hygienic norms and if the animal welfare is not observed (6, 7).

The veterinary hygienic (hygienic technological) evaluation of animal rearing facilities is generally mandatory at all stages from their designing and the beginning of construction works to the beginning of their functioning and in subsequent periods. It is performed on the background of specific criteria, prepared by specialists and includes all essential veterinary hygienic conditions related to the rearing of the respective animal

species.

In the countries with advanced cynology (France, Switzerland, Germany, The Netherlands, Denmark etc.) there is a number of criteria serving to perform a veterinary hygienic evaluation of kennels. Thus, the facilities are categorized, their work is supported and any existing deviations are eliminated (7, 8, 9).

In Bulgaria, the situation is somewhat different. Aside the fact that the number of stray dogs is considerable, there is also a problem with the realization of hygienic and technological assessments of kennels. Until now, there is no existing practice in this regard. This is one of the primary causes for the significant stray dog population (7). Taking into consideration that dog farms in Bulgaria are divided into four types: kennels, breeding farms, mixed type and stray dog shelters (7), with the present study we aimed to perform a comparative veterinary hygienic evaluation of two kennels with the purpose of supporting their activities and with regard to their categorization.

MATERIAL AND METHODS

The investigation was performed in February 2005 in two stray dog shelters. The first one (kennel #1) was located near the city of Varna in Bulgaria and was owned by a non-profit organization for environmental protection and the other, kennel #2, was near the town of Smolyan and was municipal property.

The veterinary hygienic evaluation of both farms was performed according to a

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questionnaire (check-list) including all relevant elements related to the rearing of dogs (7).

Questionnaire for hygienic technological assessment of kennels

1.1. Kennel's data:

- Name;
- Address;
- Phone;
- Opening date, motives for opening.

1.2. Animals:

- Breeds;
- Total number of dogs in the kennel;
- Passports, health record, marking of dogs – 2 pt.

2.1. Procedures on dogs kept in the kennel:

- They are sold after performance of the necessary veterinary manipulations (castration, treatment against parasites, vaccination, making of a passport and a health record) – 2 pt.;
- They are let free after marking and performance of the necessary veterinary manipulations – 1 pt.;
- The animals, not claimed within the term specified by the law, are euthanized – 0 pt.;
- The animals, not claimed are adopted (given for free at persons willing to adopt them) – 2 pt.

3. Organization of the kennel according to its activities:

- Presence of all necessary premises and facilities (ambulatories, hostel etc.) – 2 pt.;
- Lack of some elements, buildings, facilities – 1 pt.

3.1. Plan and location of the kennel (its general location vs. the four cardinal points, the position and type of the premises)

- Proper location of the kennel – 2 pt.;
- Improper location of the kennel – 0 pt.

3.2. Kennel:

Type of the premises:

- open – 1 pt.;
- closed – 1 pt.;
- semi-open – 2 pt.

3.2.1. The dogs are housed in:

- Niches – 1 pt.;
- Indoor cage – 1 pt.;
- Outdoor cage – 1 pt.;
- Box with a niche – 2 pt.;
- A housing facility – 0 pt.;
- Fenced area – 0 pt.;
- Area according to veterinary hygienic norms: yes – 2 pt.; no – 0 pt.

3.2.2. Characteristics of the premises:

- Materials with low coefficient of thermal conductivity – 2 pt.;
- Additional heating source – 2 pt.;
- Others – 1 pt.

3.2.3. Organization of the ambulatory

- Consistent with veterinary hygienic norms – 2 pt.;
- Not consistent with veterinary hygienic norms – 0 pt.

3.2.4. Areas for walk

- Present (how many?) – 2 pt.;
- Absent – 0 pt.

3.2.5. Characteristics of areas for walk

- Materials (sand, grass) – 2 pt.;
- Fenced – 2 pt.;
- Not fenced – 0 pt.;
- Schedule of walks:
 - regular – 2 pt.;
 - sporadic – 1 pt.;
 - absent – 0 pt.
- Area (according to veterinary hygienic norms):
 - yes – 2 pt.;
 - no – 0 pt.

4. Microclimate (t° , R%, air velocity, NH_3 , CO_2 , H_2S)

- Not controlled – 0 pt.;
- Controlled on a seasonal basis – 1 pt.;
- Stationary control – 2 pt.

5. Hygiene of premises

- Daily cleaning (rhythm, means, used products) – 2 pt.;
- No cleansing – 0 pt.;
- Regular disinfection, desinsection, deratization (rhythm, means, used products) – 2 pt.;
- Irregular disinfection, desinsection, deratization – 1 pt.;

- Absent disinfection, desinsection, deratization – 0 pt.

6. Feeding and drinking systems

6.1. Type of feeding

- Individual – 2 pt.;
- By groups – 1 pt.

6.1.1. Control of rations

- Yes – 2 pt.;
- No – 0 pt.

6.1.2. Drinking (frequency and distribution of water in the different groups of dogs)

- Consistent with veterinary hygienic norms – 2 pt.;
- Not consistent with veterinary hygienic norms – 0 pt.

6.2. Storage of food – location and duration

- In a special storage facility (with refrigerator) with terms of storage < 1 month – 2 pt.;
- In a special storage facility without refrigerator – 1 pt.;
- No special storage facility – 0 pt.

7. Control upon the indices of the good health status of dogs (weight in kg., hair coat, behaviour etc.)

- Yes (on a regular basis) – 2 pt.;
- Sporadic – 1 pt.;
- Absent – 0 pt.

8. Prophylaxis

8.1. Vaccinations – are they regular?

- Following a schedule – 2 pt.;
- Sporadic – 1 pt.;
- Absent – 0 pt.

8.1.1. Vaccinated animals (control on vaccine valence, are there vaccination records maintained?)

- Regular records with control of vaccine's valence – 2 pt.;
- Regular records without control of vaccine's valence – 1 pt.;
- No records are maintained – 0 pt.

8.2. Treatment against parasites

8.2.1. Against ecto- and endoparasites:

- Regular treatments according to a

- schedule with records – 2 pt.;
- Sporadic treatments with records – 1 pt.;
- No treatments – 0 pt.

9. Activities with regard to environmental protection

- Are performed according to a plan - pt.;
- Sporadic activities – 1 pt.;
- Lack of such activities – 0 pt.

10. Compliance to animal welfare standards

- An approved programme is observed;
- A partial programme is observed;
- Impaired animal welfare standards.

The categorization of the two kennels was done by a 2- and 3-point scoring system that permitted differentiation between 4 categories of dog farms according to the final total score:

- 1st category: over 50 points, **excellent** hygienic technological status;
- 2nd category: between 40-50 points, **good** hygienic technological status;
- 3rd category: between 30-40 points, **satisfactory** hygienic technological status;
- 4th category: under 30 points, **poor** hygienic technological status; the kennel should be closed as it is an environmental hazard.

The behaviour of dogs was monitored for a 24-hour period, observing the following functional activities: locomotor activity, rest, feeding, drinking, barking.

The microclimatic parameters (T°, R%, V m/s, air content of NH₃, CO₂, H₂S) were determined using routine methods, and the obtained data were statistically processed.

RESULTS AND DISCUSSION

Veterinary hygienic evaluation of stray dog shelter #1

The total number of housed dogs by the time of the evaluation was 32. They were passportized, marked and health records were maintained (2 points). Eighteen animals were male, 14 – female and their age ranged between 1 and 12 years. Housed dogs stayed in the shelter for 2 weeks and if not requested, were released after being castrated (2 points). The kennel provided shelter to 60% mixed-breed dogs and 40% purebred animals (German Shepherds, Collies, Dobermans and Pekinese).

There was not an ambulatory and a quarantine room. Instead, two cages in the common premises were used (0 points).

Location of the shelter was assessed according to the 4 cardinal points – with southerly exposure and at a suitable distance from settlements – 4 km (2 points).

The premises for dogs were of a closed type (1 point). The animals were distributed according to their size but regardless of their breed and temperament, in groups of 2 or 3 in indoor cages (1 point). The necessary area (in m²) per animal was not consistent with veterinary hygiene norms (0 points). The premises and the cages (with solid side walls and with metal doors on the side of the central path) were made of concrete and metal. The roof of the building was flat, covered with asbestos cement slates (1 point).

There was no special corner for walk of animals (0 points).

The microclimatic parameters were controlled on a regular basis by the staff (2 points). During the period of the investigation, air temperature was 19°C (norm of 20°C), the relative air humidity – 65%, the air velocity 10 cm/s. There were no harmful gases (NH₃, CO₂, H₂S) in the air. The kennel #1 was constructed with windows in one row that provided the animals with natural light for an average of 10 hours (2 points). The division of the premises into technological zones (arrangement of cages in two rows with a central servicing path) was appropriate (2 points).

The maintenance of hygiene showed that a daily mechanical cleaning was performed and washing of cages with water (2 points), and the excrements were brought together in a common duct through the slat metal floor of cages. The wastes were collected in a cesspit with capacity of 3000 litres manure (2 points). The disposal of wastes from the pit was done twice monthly (2 points).

The most commonly used disinfectants were bleaching solution and chlorine (2 points), used 3 times per week (1 point). Desinsection and deratization were done only when necessary (1 point).

The dogs were fed commercial dry food, offered twice daily at a certain amount in individual metal bowls (2 points). The access to water was free (2 points), in metal bowls with rounded borders in order to prevent injury (2 points).

The foodstuffs were stored in a special facility, provided with refrigerator, pots and hot water. The stored food was in an amount

to a maximum of one month (2 points).

In kennel #1, the normal development of animals (weight, haircoat status, behaviour) was not controlled. This was sporadically done only when necessary (1 point).

The vaccinations against canine distemper, hepatitis, leptospirosis, parvovirus and rabies were done on time (2 points). The treatment against parasites was also regular and controlled using the preparations, Prazimec, Azipirin, Droncit (2 points).

In the studied shelter, no activities related to environmental protection were performed except for the disposal of excrements (0 points).

The evaluation of animal welfare practices revealed that the kennel's owners were not acquainted with this issue. As already said, the behaviour of animals, part of animal welfare, was not monitored (0 points). Our ethological study performed for a 24-hour period showed that the principal behavioural patterns of dogs were divided as follows: 42% movement, 58% rest, 3% barking, 8% feeding and 4% drinking.

The morbidity and mortality rates were frequently controlled (2 points) and our assessment showed 15% morbidity rate from respiratory diseases and 2% death rate caused by traumas.

The complete veterinary hygienic evaluation of kennel #1 allowed us to conclude that it could be placed in the 2nd category with its total score of 42 points, i.e. it was in a good technological state but needs some improvement.

Veterinary hygienic evaluation of stray dog shelter #2

The total number of housed dogs by the time of the evaluation was 42 (total capacity of 80 animals). All dogs had passports, health records and were marked 92 points). Vaccinations, treatments against parasites and castrations were mandatory (2 points) as some of the animals were proposed for adoption (2 points) and some others were released. Some bad-tempered dogs were euthanized (0 points) if not requested within the specified terms.

Eighty percent of dogs were mixed-bred and 20% belonged to the breeds Doberman, Dachshund, Pekinese, and Collie. The age of dogs ranged between 1 and 10 years; males were 25.

In kennel #2 there was a quarantine room and an ambulatory, consistent with veterinary hygienic requirements (2 points).

The location of the kennel was proper,

the exposure – southerly (2 points), with premises of a closed type (1 point). The animals were housed in individual cages and each one had the necessary area (2 points). The walls of premises were made of bricks with both exterior and interior coats, the ceiling was well constructed and the roof – covered with tiles (2 points).

The walls of the cages (in 2 rows) were concrete, but the floors were made of fire-resistant tiles (2 points). A part of the floor represented a metal slat, under which the manure duct was placed.

Here again, there was no area intended for walk (0 points).

The microclimatic parameters were controlled on a regular basis and were found to be consistent with veterinary hygienic norms (2 points). The windows in kennel #2 were in 2 rows and thus, the animals were provided with adequate light (2 points).

The cleaning of the premises was done on a daily basis mechanically and by washing of cages with water (2 points), and thus the wastes moved through the slat in the manure duct and then, in a cesspit with a capacity adequate to that of the shelter. Disinfection was done 5 times a week (2 points) using cresol and chlorine (2 points). When necessary desinsection and deratization were also performed (1 point).

In the second kennel, the feeding was also individual, with a specified amount of commercial dry canine food (2 points). The water was provided *ad libitum* (2 points). For both food and water, metal bowls with rounded borders were used (2 points). The kennel had a premises with refrigerators and bowls where the foodstuffs were stored for no more than a month (2 points).

In this kennel, the indices related to the normal development of animals were regularly controlled (2 points).

The data from the evaluation showed that vaccinations and antiparasitic treatments were done on a regular basis (2 points). For the latter, the preparations Droncit, Azipirin, Prazimec were used (2 points).

In this shelter, the region in vicinity of the farm was cleaned twice monthly, thus responding to the requirement for environmental protection activities (2 points).

The veterinary staff of the kennel were very well informed on animal welfare issues (2 points). Accordingly, a daily ethological observation of dogs' behaviour was done (2 points). Records on morbidity rates were kept by the time of the evaluation – 5% respiratory diseases, 2% genital diseases, with a null

death rate (2 points).

Summarizing the obtained results, it could be concluded that kennel #2 was in the 2nd category of shelters, in a very good hygienic technological state (total score 48 points) and also needed some improvements.

On the basis of the comparative hygienic technological assessment, it could be concluded that kennel #2 was better arranged than #1. The second kennel had a higher score than the first one, despite that they fell into the same 2nd category. The animal premises in the second facility were built of materials with lower coefficient of thermal conductivity (bricks, tiles) compared to concrete and asbestos cement slates. Therefore, the premises in kennel #2 were with much better heat insulation properties. This was the first essential difference between both kennels.

In the second facility, activities related to environmental protection were performed. This, in our view, was the second essential difference between the studied dog farms.

Moreover, in kennel #2 the staff were acquainted with animal welfare issues and worked actively on them (control on the behaviour and the parameters of the normal development of animals). This was the third essential difference between shelters.

A common weakness was the lack of a special area for walk of animals. The fact that they are stray dogs does not mean that they should be deprived of this natural life activity.

The explanation for the observed diversity between both shelters could be attributed to the fact that the first one was owned by an ecological non-profit organization, i.e. by amateurs that lack the necessary experience and knowledge necessary to run a stray dog shelter. Kennel #2 was owned by the municipality and it should be underlined that the town of Smolyan was very successful in controlling the stray dogs population.

The difference in the construction of premises had no influence on animal behaviour but without any doubt, had an effect on morbidity and death rates. The respiratory disorders were, as could be expected, more frequent in kennel #1.

A positive feature of both kennels was the humane attitude towards dogs. They were not euthanized, except in the case of some bad-tempered ones. In these shelters, two successful practices for management of stray dogs have been realized.

On the basis of all facts, we could conclude that it was absolutely indispensable to perform a veterinary hygienic evaluation of

dog rearing establishments (not only of dog shelters), at least twice yearly (in spring and autumn). Thus, their activities would be assisted through helping to eliminate the weak points and thus, to help the control of stray dog populations.

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