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Research Article

Assessment of Regulations on Occupational Health and Safety in Agriculture in Turkey from the Point of Livestock Raising and Veterinary Medicine

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Abstract

Agriculture is the second largest source of employment following the service sector in the whole world, and it is among the most dangerous sectors concerning diseases and premature death. Majority of the families working in the agriculture sector also deal with livestock raising (cattle, sheep and goat farming) or they live in the areas with a high possibility of contact with animals. There are various problems since the occupational health and safety services do not cover the ones working on their own behalf and due to problems in the delivery of health services appropriate for the rural areas. Veterinary physicians, who play an important role in animal health, public health, and environment, have also important tasks in the implementations of occupational health and safety in livestock raising in agriculture sector. The material of this study was comprised of national and international regulations concerning occupational health and safety. The implementations of regulations of the International Labor Organization (ILO) were evaluated in terms of livestock raising and veterinary medicine. As the conclusion, in Turkey, it was determined that the regulations about occupational health and safety in agriculture did not involve the veterinary physicians concerning both safety practice and job safety; it can be suggested that it should be updated.

Keywords: *Agriculture, Livestock raising, Veterinary medicine, Occupational health and safety*

Türkiye'de Tarımda İş Sağlığı ve Güvenliği Düzenlemelerinin Hayvan Yetiştiriciliği ve Veteriner Hekimliği Açısından Değerlendirilmesi

Öz

Tarım tüm dünyada hizmet sektöründen sonra ikinci büyük istihdam kaynağını oluşturmakta ve aynı zamanda hastalık ve erken ölüm açısından en tehlikeli sektörler arasında yer almaktadır. Tarımla uğraşan ailelerin büyük çoğunluğu aynı zamanda küçük ve büyük baş hayvancılık yapmakta ya da hayvanlara temasın yüksek olduğu yerlerde yaşamaktadırlar. İş sağlığı ve güvenliği hizmetlerinin kendi nam ve hesabına çalışanları kapsamaması ve kırsal alanlara uygun sağlık hizmeti sunumu sağlanmasındaki güçlükler nedeniyle de çeşitli sorunlar yaşamaktadırlar. Hayvan sağlığı, halk sağlığı ve çevrenin korunmasında önemli bir rol oynayan veteriner hekimler, tarım sektöründe de hayvan yetiştiriciliği alanında iş sağlığı ve güvenliği uygulamalarında önemli hizmetler yürütmektedirler. Çalışmanın materyalini iş sağlığı ve güvenliği ile ilgili Ulusal ve Uluslararası mevzuat oluşturdu ve ilgili mevzuat ile ILO'nun tarım sektörüne ilişkin sözleşmeleri hayvan yetiştiriciliği ve veteriner hekimliği uygulamaları açısından değerlendirildi. Sonuç olarak, Türkiye'de tarımda iş sağlığı ve güvenliği ile ilgili mevzuatın, hem iş güvenliği uzmanlığı hem de iş güvenliği açısından veteriner hekimleri kapsamadığı tespit edilmiş olup güncellenmesi gerektiği iddia edilebilir.

Anahtar sözcükler: *Tarım, Hayvan yetiştiriciliği, Veteriner hekim, İş sağlığı ve güvenliği*

INTRODUCTION

Agriculture is defined as "*a sector, in which (workers) work in open and closed environments, in various geographies and climatic conditions, and which is conducted by means of various types of machine, animal, plant, and production*". It is the second largest source of employment after the service sector in the whole world and it is accepted among

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the most dangerous sectors concerning diseases and premature death [1].

Livestock raising, which is included into agriculture, involves many activities such as giving help at birth, feeding, sterilization, making treatments, herding, managing, insemination, and butchery, including a vast variety of types such as horse, cattle, sheep, goat, and poultry [1].

Health and safety implementations in the agriculture sector needed to be handled different from other businesses since its living environment and work environment is the same, and since all family members live and work together [2]. Majority of the families working in the agriculture sector also deal with livestock raising (cattle, sheep and goat farming) or they work in the areas with a high possibility of contact with animals [3].

However, the workers of the agriculture sector, which is generally comprised of small and medium sized family enterprises, have various problems since the occupational health and safety services do not cover the ones working on their own behalf and due to problems in the delivery of health services appropriate for the rural areas [2].

One of the most important occupational elements of agriculture and livestock raising, veterinary physicians have important roles in protection of animal health, public health, and environment. Additionally, they have important tasks concerning the implementations of occupational health and safety in livestock raising field in agriculture sector. Among the professional tasks of veterinary physicians are ensuring the food safety, fighting against and preventing zoonosis diseases, providing preventive services, struggling against biological and agricultural terror, protecting the ecosystem and environmental health, controlling the vaccine preventable diseases, healing the chronic diseases that negatively influence the health quality, and conducting medical research studies to contribute to the public health [4].

Although there is an intense agriculture and livestock raising activity in Turkey, the number of the epidemiological studies conducted on the health of the workers in agriculture is limited, and the first scientific symposium employed in this issue was held in Şanlıurfa province in 6-7 April, 2012. The subject of the Occupational Health and Safety week of the year 2012 was decided by the Ministry of Labor and Social Security as '*agriculture*'; institutional steps were taken in the ministry like establishment of joint advisory committee of occupational health and safety. Moreover, evaluation of occupational risks in agriculture and developing guides particular to agriculture projects were started by the ministry [5].

The Occupational Health and Safety Law[1] no. 6331, which imposed the obligation for the employers to employ job safety specialist, occupational physician, and other health personnel among the employee, entered into force in 2012.

In this study, it is aimed that evaluating the Occupational Health and Safety Law and the regulations of the International Labor Organization (ILO) about the agriculture sector in terms of livestock raising and veterinary medicine implementations.

MATERIAL and METHODS

The material of the study is comprised of national and international regulations about occupational health and safety. The Occupational Health and Safety Law no. 6331, the regulations introduced in this context, and the documents of the ILO about agriculture sector were examined in terms of livestock raising and veterinary medicine. Additionally, the literature in this subject was reviewed and an evaluation was made in context of the data obtained from relevant books, articles, and scientific studies.

RESULTS

The first aggreement of ILO C129[2] (*Labor Inspection (Agriculture) Convention*), concerning agriculture was signed in 1969 and came into force in 1972. Moreover, there are the regulations numbered 155[3], 161[4] and 187[5] regulating the issues concerning occupational health and safety in general working life. Additionally, particular to agriculture sector, with the regulations numbered "C184 - *Safety and Health in Agriculture Convention*"[6] and "R192 - *Safety and Health in Agriculture Recommendation*"[7] the issues concerning occupational health and safety in agriculture were regulated. The regulations numbered C129 and C184 have not been ratified in Turkey yet.

In Turkey, in the Occupational Health and Safety Law[a] no. 6331, the occupational safety specialists are defined as the supervisors, the graduates of engineering or faculties providing architecture education and technical staff, who are inspecting the working life in the Ministry and relevant institutions and who are authorized by the Ministry to be employed in the occupational health and safety field with the occupational safety specialty certificate. The occupational groups defined as *"technical personnel"* are the technical teachers, the ones with the title physicist, chemist, or biologist and the graduates of occupational health and safety programs of vocational high schools of universities. The workplaces were separated into three groups as "Very hazardous", "Hazardous", "Less hazardous", and the specialists as A, B, and C class.

[1] Official Gazette dated 30.06.2012 and numbered 28339.

[2] C129- Labor Inspection (Agriculture) Convention, 1969.

[3] Agreement about Occupational Health and Safety and Working Conditions numbered 155.

[4] Agreement About Health Services numbered 161.

[5] Framework Agreement About Developing the Occupational Health and Safety numbered 187.

[6] C184 - Safety and Health in Agriculture Convention, 2001.

[7] R192 - Safety and Health in Agriculture Recommendation, 2001.

In the 9th article of the law no. 6331 titled as *"Determining the hazard classes"*, it was stated that the hazard classes of the working places would be determined according to the notification of the ministry, and accordingly the *"Notification of Working Place Hazard Classes Concerning Occupational Health and Safety"*[8] was enacted. According to the "Statistical classification of economic activities in the European Community" system *(Nomenclature statistique des Activités* économiques *dans la Communauté Européenne-NACE)*, which is in the appendix of this notification, the coded activities concerning the animal production, animal products, and veterinary medicine are given in *Table 1, 2, 3, 4, 5, 6,* and *7*. Almost all of the activities given in the tables are within the "hazardous" class, necessitating the employment of a *"(B) Class Occupational Safety Specialist"*.

By the Ministry of Labor and Social Security, it was determined that a meeting was held titled *"Cooperation Meeting for Occupational Health and Safety in Agriculture"*

[8] Official Gazette dated 26.12.2012 and numbered 28509.

Table 1. *Hazard class list of animal production activities*

NACE Rev. 2. Code	NACE Rev. 2. Description	Hazard Class
01.4	Animal production	
01.41	Raising of dairycattle	
01.41.31	Raising of dairycattle (cattle and buffaloes)	Hazardous
01.42	Raising of other cattle and buffaloes	
01.42.09	Raising of other cattle and buffaloes (except dairycattle)	Hazardous
01.43	Raising of horses and other equines	
01.43.01	Raising of horses and other equines (donkey, mule or hinny etc.)	Hazardous
01.44	Raising of camels and camelids	
01.44.01	Raising of camels and camelids	Hazardous
01.45	Raising of sheep and goats	
01.45.01	Raising of sheep and goats (including production of unprocessed milk, hair, mohair, fleece, wool, etc.)	Hazardous
01.46	Raising of swine/pigs	
01.46.01	Raising of swine/pigs	Hazardous
01.47	Raising of poultry	
01.47.01	Raising of poultry (chicken, turkey, duck, goose and guinea fowl etc.)	Hazardous
01.47.02	Operation of poultry hatcheries	Hazardous
01.47.03	Egg production from poultry	Hazardous
01.49	Raising of other animals	
01.49.01	Bee-keeping and production of honey and beeswax (including royal jelly)	Hazardous
01.49.02	Raising of silk worms, production of silk worm cocoons	Hazardous
01.49.03	Raising and breeding of domesticated live animals (except fish) (cats, dogs, birds, hamsters etc.)	Hazardous
01.49.05	Raising ostriches	Hazardous
01.49.90	Raising and breeding of semi-domesticated or other live animals (other birds (except poultry), insects, rabbits and other fur animals, snails, worm farms, reptile farms, animal embryos etc.)	Hazardous
01.5	Mixed farming	
01.50	Mixed farming	
01.50.06	Mixed farming (combined production of crops and animals without a specialised production of crops or animals)	Hazardous

Table 2. *Hazard class list of support activities for animal production*

NACE Rev.2. Code	NACE Rev. 2. Description	Hazard Class
001.62	Support activities for animal production	
01.62.01	Herd menagement, agistment services, coop cleaning, sheep shearing, milking, farm animal boarding, activities of farriers etc. activities on a fee or contract basis	Hazardous
01.62.02	Herd testing services, poultry sterilization, artificial insemination etc. (including operation of poultry hatcheries)	Hazardous

Table 3. *Hazard class list of hunting, trapping and related service activities*		
NACE Rev. 2. Code	**NACE Rev. 2. Description**	**Hazard Class**
01.70	Hunting, trapping and related service activities	
01.70.01	Hunting and trapping on a non commercial basis (for food, fur, skin, or for use in research etc.) (except fishing)	Hazardous
01.70.02	Hunting and trapping on a commercial basis (for food, fur, skin, or for use in research etc.) (except fishing)	Hazardous

Table 4. *Hazard class list of manufacture of food products*		
NACE Rev.2. Code	**NACE Rev. 2. Description**	**Hazard Class**
C	MANUFACTURING	
10	Manufacture of food products	
10.1	Processing and preserving of meat and production of meat products	
10.11	Processing and preserving of meat	
10.11.01	Slaughtering cattle, sheep, goats ect. and processing of meat (abattoirs) (production of fresh, chilled or frozen meat, in carcasses and cuts)	Hazardous
10.12	Processing and preserving of poultry meat	
10.12.01	Processing of poultry meat (fresh or frozen) (including edible offal)	Hazardous
10.12.02	Operation of slaughterhouses engaged in killing, dressing or packing poultry	Hazardous
10.12.03	Rendering of edible poultry fats	Hazardous
10.12.04	Production of feathers and down (including skins)	Hazardous
10.13	Production of meat and poultry meat products	
10.13.01	Manufacturing uncooked meatballs and similar products produced from meat and poultry meat	Hazardous
10.13.02	Manufacturing of salted, dried or smoked products as sausage, salami, fermented sausages, bacon, roasting meat, canned meat, pickled meat, ham etc. produced from meat and poultry meat (except meals) production of dried, salted or smoked meat	Hazardous
10.13.03	Production of meat and offal meal (produced from meat and poultry meat)	Hazardous
10.13.04	Production of edible animal offal and fats from cattle, sheep, goats etc.	Hazardous
10.2	Processing and preserving of fish, crustaceans and molluscs	
10.20	Processing and preserving of fish, crustaceans and molluscs	
10.20.03	Preparation and preservation of fish, crustaceans and molluscs (freezing, drying, cooking, smoking, salting, immersing in brine, canning etc.)	Hazardous
10.20.04	Production of fish, crustacean and mollusc products (fish fillets, roes, caviar, caviar substitutes etc.)	Hazardous
10.20.05	Production of fish meal, flour and pellets (for human consumption)	Hazardous
10.20.06	Activities of vessels and boats engaged only in processing and preserving of fish	Hazardous
10.20.07	Production of uncooked fish dishes (fermented fish, fish pulp, fish cake etc.)	Hazardous
10.20.08	Production of meals, flour and pellets from fish, crustaceans, molluscs or other aquatic animals (unfit for human consumption) and production of other inedible products	Hazardous

in 28 February 2012 *"for determining the current state of the occupational health and safety in agriculture, collecting together the country-wide efforts in this field, determining the requirements, and share of information and experience among institutions"*; it was also determined that *"The Pilot Project for Occupational Health and Safety in Agriculture"* was started in 2 March 2012, in Şanlıurfa and Adana [6].

According to the cooperation protocol signed between the Institute for Occupational Health and Safety of Turkey and Institution of Occupational Safety and Health (IOSH) of England in 2012, a pilot project was prepared in order to determine the risks in agriculture and food sectors and to prepare guides. As a result of this project, the following guides were prepared [6-8]:

The guide for determining the occupational health and safety risks in livestock sector (Still-continuing),

The occupational health and safety guide in red meat and poultry processing plants,

The occupational health and safety guide in fruit and vegetable businesses,

The guide for determining the occupational health and safety risks in greenhouse production,

The occupational health and safety guide in milk and milk products sector,

The guide for evaluating the occupational health and

Table 5. *Hazard class list of manufacture of dairy products*		
NACE Rev. 2. Code	**NACE Rev. 2. Description**	**Hazard Class**
10.5	**Manufacture of dairy products**	
10.51	**Operation of dairies and cheese making**	
10.51.01	Manufacture of fresh liquid milk (pasteurised, sterilised, homogenised and/or ultra heat treated) (except production of raw mil kor milk powder)	Hazardous
10.51.02	Manufacture of cheese and curd	Hazardous
10.51.03	Milk powder, casein, milk sugar (lactose) and whey manufacturing (including solid or powdered milk and cream)	Less Hazardous
10.51.04	Manufacture of milk-based soft drinks (kefir, orchid etc.)	Less Hazardous
10.51.05	Manufacture of other products made from milk (butter, yogurt, buttermilk, cream, sour cream, etc.) (Including cream) (excluding whipped cream in solid or powder form)	Hazardous
10.52	**Manufacture of ice cream**	
10.52.01	Manufacture of ice cream (plain, with vegetables, with fruits etc.)	Less Hazardous
10.52.02	Manufacture of other edible ice such as sorbet	Less Hazardous

Table 6. *Hazard class list of manufacture of prepared animal feeds*		
NACE Rev. 2. Code	**NACE Rev. 2. Description**	**Hazard Class**
10.9	Manufacture of prepared animal feeds	
10.91	Manufacture of prepared feeds for farm animals	
10.91.01	Manufacture of prepared feeds for farm animals	Hazardous
10.92	Manufacture of prepared pet foods	
10.92.01	Manufacture of prepared pet foods (including dogs, cats, birds, fish etc.)	Hazardous

Table 7. *Hazard class list of Veterinary activities*		
NACE Rev. 2. Code	**NACE Rev. 2. Description**	**Hazard Class**
75	Veterinary activities	
75.0	Veterinary activities	
75.00	Veterinary activities	
75.00.02	Activities of veterinary hospitals (includes animal ambulance activities for pet animals)	Hazardous
75.00.04	Veterinary activities (other activities, outside from animal hospitals)	Hazardous

safety risks in open agricultural areas.

In the occupational health and safety guide for red meat and poultry processing plants, it was observed that possible hazards, risks and probable control measurements in production activities were determined, and risky actions that can cause serious injuries and accidents were indicated [7].

In the occupational health and safety guide in milk and milk products sector, it was emphasized that *"…based on the NACE code, (it) was prepared to inform the employers, Occupational Health and Safety Professionals, and workers about possible hazards and risks that they can face in the "10.5 Dairy Products" sector and about the measurements to be taken"*. In the *"Biological Factors"* chapter of the guide, it was reported that among the leading communicable diseases from animals to milk, and from milk to human beings were *"Tuberculosis, Brucella, and Salmonella"*; it was also stated that these diseases can spread to the workers, and the reproduction of microorganisms is inevitable particularly in the tanks that are used for collecting the raw milk [8].

The *"Cooperation Protocol for Occupational Health and Safety in Agriculture"* was signed on 19 March 2013, by the Ministry of Labor, Ministry of Food, Agriculture and Livestock, Ankara University, Çukurova University, and Harran University [5]. The aim of the Protocol was defined as *"to cooperate with the aim of establishing the culture of occupational health and safety, guiding employers and employees by means of protection from existing risks, monitoring the developments and disseminating good practice examples to the whole agricultural sector, which has a high risk for occupational health and safety"*. Under the Protocol, *"Joint Advisory Board of Occupational Health and Safety in agriculture (JAB)"* was created and decided to meet twice a year.

DISCUSSION

The duties and authorities of veterinary physicians were determined in the 5th article of *"The Law on the Implementation of the Veterinary Profession, Establishment and Duties of the Union and Chambers of Turkish Veterinary Physicians"* no.6343. In addition to diagnosing and treatment of animal diseases, among these duties and authorities are the production, analysis, and control of all animal products, vaccines, and medicines to be used in the field of animal health, preventing the infectious animal diseases and movements that will hamper the breeding and development of livestock in the country, and using the scientific knowledge in the zootechnics field. Therefore, all the activities stated in the *Tables 1-7,* are among the duties and authorities of veterinary physicians and all of them are within the "hazardous" class, necessitating the certificate of *(B) Class Occupational Safety Specialist*. Moreover, veterinary medicine was included into *(Table 7)* the hazardous working places as a profession. However, veterinary physicians are not among the occupational groups allowed for the *Occupational Safety Specialty*. In this context, necessary regulations should immediately be made, and veterinary physicians should also be included into these occupational groups.

Particularly for the health and safety implementations of the agriculture sector and considering its unique characteristic [2] that is different from other professions, it can be suggested that the legal regulations in Turkey should be restructured in line with the regulations and agreements designated by the ILO in the agriculture sector.

The *"Arrival and Butchering of the Livestock"* and *"Occupational Diseases"* chapters of the *"The occupational health and safety guide in red meat and poultry processing plants"* are the parts, where the support of veterinary physicians is necessary [7]. Similarly, particularly in the *"Biological Factors"* chapter of the *"The occupational health and safety guide in milk and milk products sector"* [8], the requirement was clearly revealed that the veterinary physicians should be among the occupational health and safety specialists. In the "*The guide for determining the occupational health and safety risks in livestock sector"*, which is still under preparation, it is considered that taking the opinions of the veterinary medicine education institutions, implementation units, and professional associations will be beneficial for the sector.

The inclusion of livestock raising and related activity fields and veterinary profession into the *"Cooperation Protocol for Occupational Health and Safety in Agriculture"* and *"Joint Advisory Board of Occupational Health and Safety in Agriculture"* will make contributions for more efficient occupational health and safety efforts.

In a study conducted by Aslım and Yaşar [9], it was determined that veterinary physicians face many occupational risks such as accidents, chemical components, infectious diseases, compulsion, injuries, sprains during their professional practice and it was reported that occupational health and safety should be a predetermined requirement for veterinary medicine. However, in the law no. 6331, agricultural workers and cultivators are included into the occupational health and safety regulations, but veterinary physicians, who are directly exposed to occupational diseases, zoonosis, and work accidents are excluded. It can be stated that it is necessary and very important that the required legal arrangements should immediately be designated in order to increase the safety in the profession of veterinary medicine, which is one of the most important occupational groups in terms of agriculture and livestock raising.

As the conclusion, it can be suggested that the regulations concerning the occupational health and safety should be updated so as to include veterinary physicians both in *occupational safety specialists* and *occupational safety*. Additionally, the role of veterinary physicians is very important for the protection of both animals and people who care for them from disease and other risks in animal husbandry. The awareness levels of the veterinary physicians should be increased about protecting both themselves and the people they work with from possible risks, and about taking necessary measurements against injuries and diseases.

REFERENCES

1. ILO: ILO Safety and health in agriculture. ILO code of practice. International Labour Office - Geneva: ILO, 327, 2011.

2. Donham KJ, Thelin A: Agricultural Medicine; Occupational and Environmental Health for the Health Professionals. Iowa, USA: Blackwell Publishing, 2006.

3. Anonymous: *I. Tarım Sağlığı ve Güvenliği Sempozyumu: Çevresel ve Mesleki Riskler.* 6-7 Nisan, Şanlıurfa, 2012.

4. Cevizci S, Erginöz E: İnsan sağlığı ile veteriner hekimlik uygulamalarının ilişkisi: "Veteriner Halk Sağlığı". *İstanbul Üniv Vet Fak Derg*, 34 (2): 49-62, 2008.

5. Menteş Gürler A, Şimşek Z (Eds): Tarımda İş Sağlığı ve Güvenliği Çalıştayı. Renk Matbaası, İstanbul, 2016.

6. ÇSGB: Tarımda İş Sağlığı ve Güvenliği Rehberi. 34, T.C. Çalışma ve Sosyal Güvenlik Bakanlığı Genel Yayın No: 44, Ankara (Tarihsiz).

7. ÇSGB: Kırmızı Et ve Kanatlı Hayvan İşleme Tesislerinde İş Sağlığı ve Güvenliği Rehberi, 62, Ankara (Tarihsiz).

8. ÇSGB: Süt Ürünleri İmalatı Sektöründe İş Sağlığı ve Güvenliği Rehberi. 36, Ankara, (Tarihsiz).

9. Aslım G, Yaşar A: Gıda Tarım ve Hayvancılık Bakanlığında görev yapan veteriner hekimlerin iş sağlığı ve güvenliği üzerine bir değerlendirme. *V. Ulusal Veteriner Hekimliği Tarihi ve Mesleki Etik Sempozyumu,* 25-27 Mayıs, Bildiri Özetleri Kitabı, s.86, Bursa, 2016.