Editorial
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Dear Readers,
With great pleasure we release the IAHA Newsletter No. 5! This is the first edition to be dedicated to Turkey and the Middle East. We describe the development of organic livestock in Turkey and the Middle East: the first organic animal farm project to produce milk as a corporate social responsibility project, organic beekeeping in Turkey, animal welfare development as well as research projects on organic livestock, which got significant support by the Turkish Ministry of Food Agriculture and Livestock. Furthermore we inform about the engagement of Ege University in assisting the organic movements in Turkey as well Ödemiş Vocational High School with their demonstration livestock farm from İzmir Küçük Menderes basin.

Ecological fairs with products from organic as well as from traditional local (low input) farming, were organized in Turkey in the last decades in Istanbul. This was a bit confusing for all participants because of the mix of organic and non-organic products. As a result, The Turkish Association of Ecological Agriculture (ETO), an association which was founded in 1992 in İzmir, started to organize a fair only with organic products (named Ecology İzmir) to make the fair most effective for international stakeholders, producers and consumers. This has taken place since 2010 in İzmir together with Izfaş (İzmir Fairs General Directorate). This year, the Ecology İzmir fair will be organized in collaboration with “International Turkish Quality Symposium for Organic Medicinal and Aromatic Plants” (in İzmir International Fair Ground, from 17 to 18 April 2015).

The quantity of organic products sold in Turkey has been increasing. This is due to products being available in

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hypermarkets, private markets and especially local open-markets, also with organic livestock products. The biggest two non-governmental organizations of Turkey, the Bugday Association (main members are consumers) and ETO Association (main members are mainly producers, processors, farmers, control and inspection bodies, academicians and researchers) are organizing local open markets in (6-7) big cities of Turkey. Istanbul and Ankara open local markets are organized by Bugday Association, in Izmir these are organized by ETO Association.

National Organic Products symposium and an Organic Livestock Congress are organized every three years in Turkey. The next “National Organic Agriculture Symposium” will be organized in Erciyes University Agriculture Faculty in Kayseri in 2016. “Turkey Third Organic Livestock Congress” will take place in Bingöl University in 2016. In 2010, the first Organic Livestock Congress was organized in Gümüşhane Kelkit Aydın Doğan Vocational High School to show the importance of the integration of plant products with animal production, limitations of organic livestock in Turkey and suggestions to develop and to widespread organic animal products. Whereas at the first congress the development of organic livestock production was debated, the second Organic Livestock congress (which was organized in Uludağ University Agriculture Faculty in Bursa in 2013) has presented many advantages of research projects for the development of organic animal husbandry (e.g. challenges during the conversion periods and how to improve the quality of organic products).

In my opinion, the most important factors limiting organic livestock production are the non-integration of plant production with animal production as well as that organic feedstuff is rare. Especially a difficulty is that many farmers are small land owners and are not organized to meet the costs of inspection and certification. The linkages between organic plant production and animal production should be emphasized especially in Turkey and the Middle East countries. The studies and research projects targeting organic animal production (related with native breeds, alternative methods for animal health and the improvements of the quality of organic animal products) should be carried out with the support of relevant organizations. Holistic strategies should be adopted; necessary support and knowledge transfer opportunities should be provided to the producers and their organizations with regard to organic livestock production from the initial phase on. Analyses of the costs of production and certification should be carried out to determine levels of support needed to encourage conversion to organic production.
Foreword
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It is a great opportunity for all involved in the development of organic livestock farming in Turkey and the Middle East to have exposure to the World through the IAHA newsletter. Organic agriculture started in Turkey as in many other Mediterranean countries in mid-80s with the demand of the European companies. Thus, the products grown organically under contracts with farmers were of plant origin namely dried fruit and nuts (as monocultures of perennials) destined to the enlarging European organic market. The contracted farming helped to increase organically managed and certified area but, on the other hand, this top-to-down development slowed down the development of the domestic market. Till the end of 1990s, all the organic products in Turkey were mainly dried plant produce for the export market. Honey was the only animal product displayed on the shelves. The first Turkish regulation on organic plant production issued in 1994 set the framework for organic production. Following the advances in the European Union legislation, articles related to animal production and processing were also added to the Turkish law. After the enforcement of the Organic Law in 2004, the regulation was revised and aligned to the European Union, and the scope was extended to include aquaculture. Two decades after the first case of organic farming, domestic market started to grow. Subsidies and loans with low interest pushed the production slightly, however the real impulse came after 2009 when the subsidy per unit area increased. In addition to the subsidies, the Turkish Ministry of Food Agriculture and Livestock initiated and supported research projects on organic agriculture at national research institutes and financed demonstration projects in 40 different provinces. These demonstration projects were generally pioneers in their region and helped farmers to convert into certified organic management systems.

In Turkey, the first organic animal farm was initiated as a corporate social responsibility project. However, organic milk processed from this farm was one of the food stuffs demanded most in the domestic market. Parallel to the increase in the number of products as fresh fruit and vegetables, the domestic market increased, thus eggs, poultry and red meat in addition to milk were demanded. The main bottleneck in organic animal husbandry was the integration of organic plant and animal production for feed and fodder; for two
main reasons: small farm sizes and domination of perennials in the Turkish organic production. The few organic livestock farms that existed had to contract other farms for feed production.

One of the other milestones of organic animal husbandry in Turkey is the development of active farmers’ cooperatives. There are several organic farmers’ cooperatives (milk, honey and red meat) that are acknowledged as best practices in Turkish agriculture. Formation of these cooperatives provided easier access for small farmers to the organic markets in big cities reduced the inspection and certification cost per farmer, maintained feed source, increased profitability and contributed to rural development. The Turkish consumer still purchases organic products because they think organic is safe. The price premiums of organic animal products are higher than plant products and expensive for an average Turkish consumer. The prices are expected to decrease as the supply increases especially if plant and animal production is integrated at farm level.

The other influence on the development of organic animal husbandry is the initiation of research work and compilation of research findings in scientific meetings. The proceedings help to disseminate results. The authors who have contributed to the IAHA Newsletter are all pioneers leading research and capacity building activities related to organic animal farming. The Turkish experience can be exemplified in other developing countries. Due to common characteristics, especially the Mediterranean and the Middle Eastern countries have many values and experiences to share and exchange.
1. Organic Animal Husbandry in Turkey and the Middle East

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Turkey, Iran and Syria as well as some Middle East countries have significant livestock capacity. However, production and consumption of organic animal products are very low due to the low consumer awareness and purchasing power. Diseases encountered in these countries also problematic in restricting the potential to export from these countries. Very few data were found regarding relating to organic livestock in the Middle East countries.

Organic Farming in the Middle East

The Middle East has various ecological zones from arid to cool rainy climates. The animals are generally grazed in rangelands. Problems regarding to organic animal husbandry in the Middle East countries can be classified as structural, financial, cognitive and emotional. Farmers generally did not receive any loan and subsidy from the governments to sustain organic farming in this region. The certification is one of the main challenges for farmers in terms of adopting organic farming. The certification system is extremely expensive for the small farmers.
Organic Animal Husbandry in Turkey

Intensive production methods have been used in poultry production and some dairy cattle farms. However, animal production has been sustained with extensive methods including sheep and goat farming in Eastern part of Turkey. Most of the organic (ecological) products, which are approximately 1% of total production, have been exported and it mainly consisted of plant products excluding honey.

There are about 15 million hectares grassland in Turkey. But, grazing capacity in those areas are low due to heavy and early grazing. 23% of population in Turkey are employed in agriculture. At present 67% of farms have both agricultural crop and animal production together in the same farm. The ratio belonged to these types of farms among all the farms in Turkey are 67%.

The data regarding organic animal production is given in Table 1.

Table 1: Organic Animal Production in Turkey

<table>
<thead>
<tr>
<th>Animal Variety</th>
<th>Number of Producer</th>
<th>Number of Animal (Head)</th>
<th>Milk (ton)</th>
<th>Meat (ton)</th>
<th>Egg (number)</th>
<th>Chicken Meat (ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>1126</td>
<td>47715</td>
<td>51003</td>
<td>3126</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sheep</td>
<td>371</td>
<td>72414</td>
<td>1103</td>
<td>128</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Goat</td>
<td>111</td>
<td>18639</td>
<td>2675</td>
<td>98</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Chicken</td>
<td>24</td>
<td>516375</td>
<td>-</td>
<td>1618</td>
<td>48040778</td>
<td>10030</td>
</tr>
<tr>
<td>Total</td>
<td>1632</td>
<td>655143</td>
<td>54781</td>
<td>4970</td>
<td>48040778</td>
<td>10030</td>
</tr>
</tbody>
</table>

Beekeeping

<table>
<thead>
<tr>
<th>Number of bee hives</th>
<th>Honey production, ton</th>
<th>Other bee products, ton</th>
<th>Total Production, kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>279</td>
<td>32342</td>
<td>33553</td>
<td>34404</td>
</tr>
</tbody>
</table>

Source: MFAAH, Organic Agriculture Information System, 2013
Problems and Solutions

In the domestic market, consumer awareness and purchasing power are low. There are problems in the exportation of organic animal products due to some animal diseases. Organic animal production is low and their product prices are high. The low production increases the related costs including product processing, marketing and certification. Farmer organizations and control services are inadequate. There are significant problems regarding to the supply of suitable inputs. Research on organic animal husbandry is insufficient. The government support for input supply in organic farming and animal husbandry is insufficient.

The short term target should be the development of the domestic market for organic animal products. The organized farmers should be supported. The pastures should be protected and well managed. Consumer awareness and confidence for organic products should be increased. The diet for children should be encouraged for using organic products.

Conclusion

The promotion of organic farming and animal husbandry in Turkey and Middle East countries, the protection of nature and eco-system, increasing the income level of the small farmers, agro-tourism and rural development, preventing the migration to urban from rural will contribute to health nutrition of the public, mainly babes and children.

*If it is required, the references given in the article can be supplied by the authors.*
2. Contracting dairy cow farming in Turkey: The Kelkit Valley Organic Stockbreeding Project

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In 2002, Dogan Holding, an industrial group comprising the strongest media group in Turkey, has established a dairy cattle breeding business with a capacity of one thousand dairy cattle in the Kelkit district of Gümüşhane (Photo 6), in the Northeast of Turkey and I was proposed to manage this business. The region’s share in the national income was very low; and it was one of the ten provinces at the bottom of the list of the provinces in Turkey in terms of development. However it was the place where Aydın Doğan, the honorary chairman of Doğan Holding was born; and some of his family members were still living there. He wanted Kelkit to develop. He thought that Kelkit would be a good example for sustainable development, and that this could be achieved by using an agricultural model. Therefore he had an academy and a campus built there, and supported the foundation of the first organic agriculture department in Turkey.

In this region winters are very cold (-10 C°/-25 C°). Springs are long and summers with high temperature are short, and there is plenty of precipitation. The main production in the region was based on stockbreeding in closed shelters. These shelters were used to breed animals to be sold at the holiday of sacrifices, celebrated by the Muslim population. There were not many farmers breeding dairy cattle, and those breeding dairy cattle were selling to villages or using the milk for their own needs. There were a limited number of large meadows, and the villagers were using them to feed their stocks in summer. Particularly during the period between winter and spring, there were many cases of foot-and-mouth disease.

There were no large-scale agricultural areas. The sizes of the fields were generally between 0.5 and 1.5 hectares, given that they were divided between the inheritors. On top of that the climate was not favourable; and therefore even in the clover fields, there were only three types of clovers. There was the same problem about the corn silage. In the conventional production, the yield per one tenth of a hectare was no more than five tons of silage, whose dry matter was not more than 25 – 27 %. Generally a significant frost occurred in the first half of
September, and this posed a great risk for silage production. In a nutshell, there were problems in the forage crop production.

The Company established a modern dairy cattle business in this region, based on significant misassumptions, and it was planning to increase the capacity of this project to 4,000 dairy cattle. 400 pregnant heifers were imported from the USA. Not only the animals’ pedigrees were missing, but also there was no information on how far they were in their pregnancies. All of the heifers gave birth on the coldest days of the year between November and March. There were four calving pens. The calves were fed by automated milk dispensing machines at -20°C, but the machines were getting frozen. There was no individual sheds for the calves, they were kept altogether and once a calf got pneumonia, it was transmitted to the others. On top of that, the foot bath pits were frequently getting frozen, and the animals were not able to take their foot baths.

As a result, we experienced serious losses in such a short term. We started working with two consultants from Germany to enhance our knowledge and understand organic stockbreeding. They made great contributions to the Doğan Organic Farm and the region. At the end of the second year, I made up my mind. Despite the wishes of the boss, I would not let this enterprise to grow any further and would prevent further investment for 4,000 dairy cattle in Doğan Organic Farm. Instead, a project for contracting with local farmers in the region for organic stockbreeding would be started, and Doğan Organic Farm would continue to produce milk just like the contracted farmers. The Company would spend efforts for the growth of the market for the products containing organic milk, which did not exist at that time. It would process the milk and focus on the sale and marketing activities.

There was no use in producing a product for which there was no market, and this was not rational. The Doğan Organic Farm was to teach the people of the region how to become more self-reliant through its Kelkit Contracted Stockbreeding Project, and focus on the market to make use of the milk produced. It would become a pioneer for the development of dairy cattle breeding in the eastern regions of Turkey, and it actually did. Many investors wishing to invest in farms in the Eastern and South-eastern Turkey visited the region and we shared our knowledge and experience with them. In 2008, the Company decided not to grow any further, and started its project on contracted stockbreeding. The farmers in the region were not very eager, because they were nervous about starting a new business and timid due to the continuous supervision over them.
Like in every project conducted with farmers, there were some pioneers, whose successes helped the participation of the others in the project. In time, the project expanded to the other provinces nearby, such as Erzincan, Erzurum, Bayburt and Samsun.

The project required the participating farmers to have fields for crops. Numerous trainings were and are still given to the farmers on what “organic” means, the organic plant production, and the organic stockbreeding, by many academy professors and students as well as the engineers of the Doğan Organic Farm. Various plans and projects were prepared in order to ensure the compliance of the farmers’ already existing animal shelters to the requirements of organic stockbreeding. Loans were granted to farmers that did not have shelters, and concrete manure pits were built for the farmers who had no information about manure pits. Herding areas were arranged. A modern milking system and cooling tanks were supplied to each business. The farmers were provided with continuous support on the content of animal feeds, the feeding of calves etc. And this led to the start of the standard organic and hygienic milk production in the region in accordance with the EU criteria.

The farms were inspected by not only the certification institutions, but also the engineers of the Doğan Organic Farm. The organic reliability was increased. At the end of a four years’ period, we achieved an organic milk production of 10 thousand tons per year. We started producing and selling organic milk products to Migros, the biggest retail store chain in Turkey, under the Mlife brand.

Photo 6: A view from the Kelkit Aydin Dogan Organic Dairy Cow Farm (Photo: İlhan Başaran)
3. Organic Beekeeping in Turkey

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Turkey possesses a huge beekeeping potential and has an important place among leading countries in bee colony numbers and honey production. According to FAO database, 88,162 tons of honey and 4,235 tons of beeswax produced from 6,641,348 bee colonies in the country in 2013. Different ecologic regions, diverse regional races, ecotypes, endemic plants and rich floral resources provide an extraordinary environment in Turkey. It has a very convenient position for beekeeping because of its ecosystems and rich biodiversity (Photo 7). This structure provides great possibilities to develop organic beekeeping in the country (Photo 8). Main nectar resources are wild flowers (important for all year round flowering), orchard and forest trees (citrus, almond, castanea, lime tree), industrial crops (cotton, sunflower, canola), shrubs (milk vetch, thyme, sage), honeydew sources supplied by Marchalina hellenica which is a scale insect living mostly on Pinus brutia (as known Turkish pine) in the Southwest part of the country (Photo 9). In Turkey, approximately 12,000 plant species, 33% of which are endemic, have been recorded. Because of valuable and variable floral sources, migratory beekeeping is so common. In recent years, working schedule of “mapping of nectar flows” has been developed by Turkish Ministry of Agriculture and Rural Affairs intended to assist migratory beekeepers.
The first organic beekeeping started in 1994 following the issuing of organic beekeeping regulation in Turkey. As a result of positive improvements in recent years, organic beekeeping plays an important role in Turkish beekeeping. In the last decade organic beekeeping in Turkey was structured according to the demands that came from the exporters, traders or farmers from Europe. Organic agriculture production regulation was revised and put into force on 3 December 2004 as “Principles and Application of Organic Farming” and organic beekeeping production was included in this revision and modified according to Council Regulation EC No 1804/1999.

Due to increasing demand after 1997, the number of beekeepers has steadily increased in organic beekeeping. According to the data obtained from Republic of Turkey, Ministry of Food, Agriculture and Livestock (MFAL), the production of organic honey increased 103 % from 2005 to 2013. The number of organic bee producers were 750 and hive numbers were 95,178 in 2013. Besides that, 318 beekeepers are in transition to organic. Almost all organic beekeepers in Turkey produce under contracted beekeeping system. The MFAL is responsible for all organic farming activities including organic beekeeping. National Referring Committee is determining the strategy by annual meetings; notifying decisions to the Organic Farming Committee. The Turkish Organic Farming Committee is responsible for promoting, developing and controlling organic production. Also it is responsible for controlling and licensing certification bodies. Inspection and Certification Bodies are authorized for inspecting and certificating all organic...
beekeeping activities. Currently there are 28 authorized Inspection and Certification Bodies in the country. One of the most important problems of organic beekeeping in Turkey is organic beeswax production. Import of certified organic beeswax from a foreign country is very costly. That is why beekeepers demand to make their own beeswax recently. Also, organic sugar is not produced in Turkey. Importing of organic sugar from other countries is forbidden. So, only one way is open for organic beekeepers, that is sharing organic honey with honey bees for feeding. But the cost is very high and it reduces profit from organic beekeeping.

The 90% of world’s pine honey is produced in Turkey. Besides that, migratory beekeeping is more common than in any other country in the world. In the honey production period, beekeepers make 2 or 3 honey extraction in one season, so that the mix harvest could be seen especially in first extraction because of the nectar flow is consecutive from one nectar source to another. This is not seen in EU countries because EU beekeepers are made permanent or stabile beekeeping (not migrate the hives). EU countries do not demand “mix harvest” pine honey. The situation could turn out to be contravention. Besides that, pine honey is very unique for its physicochemical parameters from other honey quality criteria, so the honey quality parameters are generally not suitable
for evaluating Turkish pine honey. Maybe this idea could be a key for researching and/or developing a new Codex for “pine honey”. We hope that most of the problems could be solved in this way.

As a result, the organic beekeeping sector is developing in Turkey. Turkish organic beekeeping sector will take a better place in the world market, provided that governmental financial support and high quality management techniques, emphasizing the “clean and healthy” honey production, are granted. Furthermore it is important that the customers are trained to be conscious consumers, that is, they should be ready to appreciate the difference between the organic and conventional honey. Provided that the above-mentioned measures are taken, Turkey is surely ready to share with the whole world “sweet blessing” god gave to this unique geography.

*If it is required, the references given in the article can be supplied by the authors.*
4. Animal Welfare in Turkey

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The expansion of welfare within society since the industrial revolution has resulted in a demographic revolution, leading to an eight-fold increase in human population as of the beginning of this century. The consequent needs for food supply can only be met by overstretching natural potentials in food production based on animal and plant life. Efforts to enhance productivity and efficiency to meet the demand for food have led to aggravated conditions of production and mechanization of animal life.

Social response to unacceptable conditions of animal production is traced to the formation of the Society for the Prevention of Cruelty to Animals (1824) in the UK, which is considered as the beginning of the movement for the protection of animal life in Europe. Denmark was the first country to provide legal guarantees for animal welfare in 1950. Another European landmark was the Bambel Report of 1965 in the UK. UNESCO has adopted “The Universal Announcement of Animal Rights” on 15 October 1978, setting the first international formulation of the fundamental principles of animal welfare, to which Turkey acceded in 2003. This history witnesses a shift from humanitarian concerns against cruelty to positive norms concerning the welfare of animals.

**Progress in Animal Welfare**

The Ottoman Empire regulated the treatment of animals with a view to mitigate and criminalize cruelty with municipal regulations concerning ill-treatment of animals, such as prevention of undue pain during slaughtering and prohibition of excessive burden in transportation. Various actors of the Empire commissioned forest zones for wild animals and established foundations to fund charities for stray animals in urban areas, providing water and food to street animals.

However, there were also times when street animals were considered as an urban problem to be tackled arbitrarily, leading to public protest as in cases of expulsion of street dogs from Istanbul. The first organization with a focus on
animal protection in the non-governmental sector was the Society for the Protection of Animal Life (Himaye-i Hayvanat Cemiyeti) which was formed on 4th of October 1912. This Ottoman NGO was effective in combating wanton killing of street dogs by municipal authorities on several occasions. The Society was renamed the Association for the Protection of Animals of Turkey after the Republic, with its headquarters in Istanbul and branches in many provinces.

In the Republican period, the first law concerning animal welfare was the 1926 Animal Improvement Law Number 904, regulating production and veterinary practices. The Criminal Code contained provisions concerning the treatment of animals. Article 575 of the annulled Criminal Code Number 765 criminalized killing of domestic animals which have owners, while Article 577 provided criminal rules concerning ill-treatment of animals and forced labour. The new Criminal Code contains articles concerning many aspects of animal welfare, from sexual abuse to issues related to information, reflecting contemporary concerns with animal welfare. The Turkish Government has acceded to seven European Union instruments concerning animal welfare during the period between 1986 and 2007. However, the references to animal welfare principles are contained for the first time in the 2004 laws of Animal Protection (No. 5199) and of Organic Agriculture (No. 5262). The 2005 Regulation Regarding the Principles of Organic Agriculture and Their Application were revised in 2010, providing clearer definition of the rules concerning animal welfare. When the Ministry of Food, Agriculture and Livestock was re-structured in 2010, the regulations concerning the Ministry’s mandate as set out in the Law on Veterinary Services, Plant Health, Food and Feed (No. 5996) introduced an emphasis on the responsibilities of the Ministry concerning animal welfare. An important landmark in relation to animal welfare on Turkey occurred when the Government issued the 2011 Regulation Concerning the Welfare of farm Animals, the Regulation Concerning the Welfare and Protection of Animals during Transportation and the Regulation Concerning the Welfare of Animals Employed for Experimental and Other Scientific Purposes.

The Regulation Concerning Good Agriculture Practices (2010) and the Circular on Combating Animal Diseases and Control of Animal Mobility (2012), both issued by the Agriculture Ministry, are also important instruments based on animal welfare.
Animal Welfare in Practice

While the progress in the regulative framework concerning animal welfare in Turkey is promising, there seems to be a long way to go in terms of substantial improvement in practice. Three fundamental issues in relation to enforcement and practice are monitoring, habits and issues related to the scale of enterprises concerned.

Turkey has put in place eight registration systems to monitor all productive and commercial activity in animal husbandry, which are supported by means such as licensing and tracking tools. It is prohibited to transport, sale and slaughtering of animals without ear tags and health reports.

An important problem of enforcement is habitual patterns of stakeholders. A main challenge to implementation of regulations generally in Turkey is social attachment to habits. Substantial improvement can be traced to close monitoring of slaughter houses, animal markets and vehicles transporting animals. There are important efforts in expanding training stakeholders and publishing.

Another challenge relates to the size of enterprises. Bigger enterprises are advantaged in investment, and often demand privileges for older investments. Medium-sized enterprises do not always have access to financial means to harmonize their operations with the regulative requirements. In Turkey, small enterprises are still an important part of the equation, although their numbers are decreasing. Given their numbers and locations, these enterprises are more difficult to monitor although they are registered. There is more likelihood of breach of animal welfare in these enterprises.

Conclusion

Challenges to animal welfare in Turkey are rather based in economic and social factors than policy. It would be important to support the enterprises to improve animal welfare in line with the legislation and regulative framework. One pertinent proposal to address issues of animal welfare in SMEs could be to promote organizing them under cooperative or union schemes employing internal controls. A deeper level, promoting respect to animals and transforming the culture in this direction would be a fundamental safeguard for animal welfare.
5. Ongoing & Finalized Projects on Organic Livestock Research in Turkey and Middle East

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In Turkey, organic agriculture commenced in an unsystematic manner depending on development of organic agriculture in the World between 1985-1986 and demand for organic products from abroad. It made progress in parallel with the publication of Organic Agriculture Law in 2004 and changes towards the consumption of healthy food around the world. Number of farmers carrying our organic production reached 35,565, production area reached 501,641 (175,810 hectares of this area is natural collection area) hectares, number of products reached 212 and annual production reached approximately 983,715 tons in 2009. However, all the inputs used in the production are completely foreign sourced.

Organic agriculture research started intensely in 2009 in Turkey. There are 44 conducted research projects throughout Turkey and 53 researchers actively engaged in Organic Agriculture subject as of the year 2010. Research projects are conducted within 8 research activity fields in 20 research institutes. The primary objective is to carry out R&D studies conducted under own site-specific conditions and create scientific data for organic agriculture activities in order to ensure the continuity and sustainability of organic agriculture activities which are to some extent new in Turkey.

In many research studies, of which 44 were conducted between 2005 and 2010, a lot of scientific data on growing techniques, plant nutrition, plant diseases and pest management, sustainable use of soil, organic livestock farming, poultry development and as well organic aquaculture were collected and analyzed. Recommendations for the practitioners were made. In the light of this information, numerous technical personnel training were carried out; hundreds of well-informed personnel were gained throughout the country thus the farmer had the chance to reach publishers and researchers possessing skills to provide help when encountering a problem.
Organic livestock research conducted by GDAR can be examined in three groups; the first is organic livestock research, the second is organic aquaculture research and the third is organic poultry farming research.

**Organic Livestock Research**

The only research project concluded in the first group is “A Research Study on Organic Sheep Farming and Lamb Fattening under South Marmara Conditions”. The project was conducted in our institution which is presently named as Sheep Farming Research Station between the years of 2005-2007. The project was carried out to compare reproductive performance of curly sheep, growth characteristics, fattening performance, carcass and meat of lambs, which were farmed in organic and conventional systems. Organic farming has a positive impact on reproductive performance of curly sheep and growth characteristics of lambs, furthermore organic sheep had higher birth rates than conventional sheep (Photo 10).

The project of “Carcass and Meat Quality Characteristics of Gray Cattles Farmed in Organic System” launched by Sheep Farming Research Station in 2012 is currently in progress. The study involved cattle assets having domestic breeds with Gray Cattles and conducted in villages of Ayvacik county of Çanakkale, a region in which other breeds of cattle could not be farmed economically due to land conditions and structuring of property. It is the first important example of organic red meat production in our country. In this practice, Gray Cattles were preserved by being farmed within organic production systems in natural grazing lands under woods and shrubs. Carcass and meat quality characteristics of organic Gray Cattles farmed by the members of Ayvacik Organic Red Meat Farmers Association will be determined in this project. Carcass and meat quality
characteristics of Gray Cattles, one of our domestic gene sources, which are farmed in organic system by means of a model study, will be presented as a result of the research.

**Organic Aquaculture Research**

Two research projects were conducted in the second group. The first one is “The Project of Examining Available Water Resources and Facilities of GAP Region in Terms of Organic Fish Farming”. Conventional aquaculture farmers and water resources in GAP Region were examined in terms of organic fish farming in this project. Research studies were carried out in 26 conventional aquaculture facilities present in the region and surveys were made with the owners of the enterprises. Some physical and chemical characteristics of the water used in the facility were examined as well. As a result of the evaluations, it was concluded that facilities operating in the region did not possess the appropriate conditions for organic aquaculture farming.

In accordance with results of preliminary research in the area, assessments are conducted by taking into account seasonal changes of environmental, physical and chemical factors of 17 different water resources with sufficient flow rates that may be suitable for organic aquaculture. As a result of the evaluation, Tavaş, Hapşeri, Zebran and Euphrates rivers (outlets of Atatürk and Birecik dam) are identified as being eligible for organic aquaculture. A second project that has been finalized is the Research on the Possibilities of Organic Fish Farming in Black Sea Region. This study was conducted in Artvin, Rize, Trabzon, Gümüşhane, Bayburt, Giresun and Ordu provinces in the Black Sea Region. Fresh water trout fish farms, that are registered and with a capacity over 3 tons/year, were studied in terms of eligibility for organic aquaculture production.

It was observed that the sector suffers from an important lack of knowledge in terms of organic farming. According to the research results, it was found out that 33% of the fish farmers have heard about organic agriculture. Only 4% of fish farmers are aware of organic aquaculture. There is no recording system used in most of the farms (91%). In comparison to others, Gümüşhane, Artvin and Rize (high regions) have considerably high potential for organic aquaculture. This is due to the distance between pollution resources and these areas where farms are mostly located in untouched remote areas.
During the field surveys, water analysis of the potentially candidate farms were done and the results were compared with the characteristics of water resources of many certification bodies in the world. As a result, the characteristics of the water used in the most of the observed farms were found sufficiently qualified in accordance with these.

**Research on Organic Poultry**

There have been three projects that have been finalized so far on Organic Poultry Research conducted by Erbeyli Directorate of Fig Research Station. The first Project conducted on this subject is the *Organic Poultry/Broiler Project*. Overall production performance, meat quality and cost effective aspects of conventional or organic poultry production systems were investigated in this pioneer comparative research study (Photo 11).

![Photo 11. Organic Poultry Project- Organic Laying Hens](image)

Another research completed on this subject is *Organic Poultry Project- Organic Laying Hens*. With this study, effect of organic and conventional housing systems of commercial white (Lohmann LSL) and native brown laying hens (ATAK-S) on egg production performance, internal and egg shell quality, egg fractions, protein and cholesterol content and fatty acid composition were investigated. White line exhibited higher egg production rate and egg weight compared with brown line in both organic and conventional production systems. However, egg production rate (hen-day) and total egg number of white line were reduced in organic system compared to conventional status; conversely, those egg production parameters increased in the brown line (Photo 12).
Third and final project on this subject is titled *Effects of Dietary Protein Level and cotton seed meal supplementation on the Growth Performance and Some Carcass Characteristics of Slow Growing Broilers Reared in Organic Rearing System*. In this study, the effect of different levels of dietary protein (high, medium and low) on performance and some carcass characteristics of slow growing broiler chicks (Hubbard Red-JA) raised in organic rearing system was evaluated. The results suggested that dietary protein level at about 19.5, 16.5 and 15.0 % could supply protein requirements of slow growing broilers under organic conditions in starter, grower and finisher periods, respectively. Growth performance and meat quality of chickens with regards to incorporation diet with graded levels of PTK (Protein Tyrosine Kinase, i.e. 0, 5, 10 and 15 %) were also evaluated in a communicant study. Data from experiment 2 indicated that PTK at around 10 % could be a viable alternative to soybean meal as a protein feedstuff in nutrition of organically reared slow growing chicken; however, the several signs of meat quality deteriorations are the drawbacks. These results highlight the importance of integrating growth performance indices in addition to meat quality criteria when defining dietary requirements of broiler chickens. This stands out as a preliminary study in scientific literature that suggests the possibility to supplement PTK into organically reared slow growing chicken diet.
6. Ege University, Ödemiş Vocational High School

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Ege University Ödemiş Vocational High School was opened in 1994 with three programs: Sapling Production, Vegetable Production, Enterpriser Organization and Farm Management. Ödemiş Vocational High School was founded in 20.4 ha of which 19 ha agriculture production for research activities and training programmes. Organic Agriculture Programme was opened in 2008 and currently, it has going on education, research and production facilities with five programmes.

The programme is aimed to teach technical personnel which have sufficient knowledge and experience and also is able to answer the requirements of state and private sector about the organic plant and animal products and their quality control, storage, marketing. The content of the programme is “The principles of organic animal production, the legislation of organic livestock rules, Organic poultry production, Organic animal nutrition, Organic beekeeping and silkworm production”. The students are named as technician after graduation with the association degree.

The fields of work are the state institutions and organizations (Food, Agriculture and Livestock Ministry, District directorates of agriculture, Research Institutes and municipalities), the cooperatives (Agricultural Credit Association, Agriculture Sales and Agricultural Development), the private sector enterprises (organic agriculture production, processing and marketing), and own farms. The opportunities of occupation: Technicians who graduated from associate degrees can promote as a manager in their carrier. Also, it is possible to get bachelor degrees from agriculture fields.

Research activities
The organic agriculture development and widespread projects between Ege University Ödemiş Vocational High School and Directorate of İzmir Provincial Food Agriculture and Livestock Ministry were conducted for farmers from İzmir Küçük Menderes basin, agriculture engineers and students from 2011 to 2012. The aim of the project was to produce organic poultry (Photo 13) and sheep meat (Photo 13). And also, the project contributed to ability of local farmers to
produce their own organic cereals. Moreover, students has practiced and experienced for organic livestock. The following projects supported from university and private sector were conducted and, recently, some of them has still been going on vocational school: Transition period, the effects of the oregano and sage essential oils on poultry meat, the effects of oregano and garlic essential oils on feeding behaviours, the use of zeolite for broiler.

Photo 13. Organic poultry meat project between Ege University Ödemiş Vocational High School and Directorate of İzmir Provincial Food Agriculture and Livestock Ministry
Photo 14. Organic sheep meat project between Ege University Ödemiş Vocational High School and Directorate of İzmir Provincial Food Agriculture and Livestock Ministry
7. IAHA’s activities

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IAHA Preconference and workshop at IFOAM Organic World Congress (OWC), in Istanbul in October 2014

During the 18th IFOAM Organic World Congress (OWC), in Istanbul, which took place from October 11-15, 2014, the IAHA organized a pre-conference on organic animal husbandry and a workshop session. The focus was on the drafting of an international action plan for the development and strengthening of organic animal husbandry from 2014-2017, based on an analysis of the development and research needs in different continents. The outcomes of this IAHA pre-conference and the workshop session at OWC - the proceedings and the Istanbul Declaration of the IFOAM Organic Animal Husbandry Alliance (IAHA) - can be downloaded from the IAHA Website for Weblinks see below).

Furthermore a document can be downloaded (15 pages) with the outcome of the group discussions at the IAHA pre-conference and at the IAHA workshop on the following issues:
- Principles and system approach for organic animal husbandry/livestock;
- Animal health and Welfare;
- Breeding;
- Alternative (complimentary) medicine/treatment;
- Education, Advice and Training;
- Policy for organic animal husbandry.

A feedback to these outcomes is welcome; please send it to iaha@ifoam.or

The Istanbul Declaration of IFOAM Animal Husbandry Alliance

We, the members of IFOAM Animal Husbandry Alliance (IAHA) - a network of persons and groups committed to support, strengthen and stimulate the development of organic animal husbandry around the world - gathered at Istanbul on the occasion of 18th IFOAM Organic World Congress. The IAHA strongly believes that a harmonious relationship among soil, plants, animals, humans and ecosystems is a must for sustainable development. It is important to find ways to produce good quality animal products, which are produced in a sustainable balance with plant production, that are safe and in sufficient quantities to ensure good health of human beings and earn enough income for farmers. Organic systems must also deliver the highest levels of animal health and welfare. These are crucial issues both for consumers and producers that require improvements while maintaining profitable and sustainable
farming systems. Animal selective breeding, feeding, housing, animal health, management and processing of animal products must be compatible with the principles and practices of organic farming systems, which pose challenges to practitioners of organic animal husbandry globally. We need more research, knowledge and extension efforts so that required inputs and appropriate methods are evolved for organic animal production. We are convinced of the huge potential for continued balanced growth and development of the organic livestock sector, in accordance with the principles of organic agriculture and in full recognition of the role of animals and livestock production to climate change.

Therefore: we, the participants of Pre & Main conference of IAHA at 18th Organic World Congress approved by acclamation on 15. October 2014 the Istanbul Declaration of Organic Animal Husbandry, which states that:

- Systematic studies must be undertaken on organic methods and practices of organic animal production, breeding and processing, for which budget must be enhanced by various agencies of government, NGOs and private sector.
- The consumer/citizen awareness of food quality and safety issues, environmental protection and animal welfare standards need to be given high priority since these are core values in organic animal husbandry.
- The organic animal husbandry sector needs continuous improvement in animal health and welfare to become better and more compatible with farming situations, ecology and environment. More animal-related indicators for animal welfare should be used and researched.
- More emphasis should be given to complementary medicine and treatments without compromising animal welfare, including implementation of policies which not only enable but also stimulate the practical use of these treatment methods.
- Animal feed sources and feeding strategies must be in line with the principles of organic farming systems so that there is no competition with food production. Ruminant production should be based on grazing and monogastric animals should be fed mainly on residues, by-products and local protein plants.
- Appropriate breeding strategies should be developed. Breeding animals should be selected in an organic farming environment so that their offspring are well adapted to the organic production system, so that animal welfare and integrity are ensured. The development of tools facilitating such choices should be encouraged.

The members of the IAHA, as a Think Tank within the IFOAM Action Group, recognize that organic animal farming is still evolving. We are committed to integrate organic animal husbandry knowledge, concerns, positions and issues into the work of IFOAM and the Organic Movement.
IAHA action plan
At the General Assembly of IFOAM in Istanbul on the 16th and 17th of October 2014, a strongly-backed motion passed, stating that the IFOAM head office should support the IFOAM Animal Husbandry Alliance (IAHA) in developing and promoting an action plan for organic animal husbandry for 2014-2017 to better link the different stakeholders around the world. An effort should be made by the IFOAM board and head office to approach governments and non-governmental organizations linked to organic agriculture to find technical and financial resources to support the “Action Plan for the Development of Organic Animal Husbandry”.

The actions proposed are summarized in the above mentioned Istanbul Declaration of IAHA, which was distributed at the IFOAM General Assembly.

To ensure a favorable environment for this work we call on IFOAM and all IFOAM members to:

- promote and support initiatives related to animal husbandry including training and awards;
- include animal issues in events always whenever possible;
- stimulate governments to establish public policies to strengthen organic animal production, in accordance with the organic principles;
- support the realization of the 3rd IFOAM Animal Husbandry Conference;
- include animals and animal products in advertising, conferences and promotional material.

For Otto Schmid from the Research Institute of Organic Agriculture (FiBL) and chair of IAHA, the pre-conference and workshop at OWC 2014 was a real success, showing that “in the future, more importance must be given to animal husbandry and its system approach in the organic movement.”

About IAHA
As one of IFOAM’s self-organized structures, IAHA has its own website a part of the IFOAM website. Since 2012, four thematic newsletters on organic animal husbandry have been sent out with different geographical focus areas: 1. Europe, 2. Latin America, 3. Asia, 4. North America and 5. Middle East and Turkey.

Currently, approximately 140 persons receive the IAHA newsletter. Those who wish to get involved should fill out the IAHA questionnaire in order to join the community and receive IAHA’s newsletters; the questionnaire can be found on the IAHA website. A discussion forum has been running since June 2014 on animal breeding. Other discussion fora are planned: on animal welfare, alternative (complementary) medicine, and feeding strategies. Those interested in participating in the discussions should send an e-mail to iaha(at)ifoam.org.
Further information on IFOAM Animal Husbandry Alliance

Contact: Send an email to iaha@ifoam.org. To become member use the IAHA Questionnaire: IAHA - Questionnaire for new members

Links
- ifoam.org: IAHA - Animal Husbandry Alliance - here you find link to newsletters.
- ifoam.org: The Istanbul Declaration of IFOAM Animal Husbandry Alliance (IAHA)

8. Events

Biodynamic International Journeys in February 2015 on Animal Husbandry

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From February 4 to February 7, 2015 the annual international conference of the bio-dynamic movement was conducted at the „Goetheanum“ in Dornach, Switzerland. The theme of the 2015 conference was the biodynamic animal husbandry, as the title was “How can we accompany the animals with dignity into the future?”. Seven hundred persons (farmers, traders, researchers, students) from 37 countries all over the world attended the meeting.

The societal scepticism against agricultural livestock husbandry is growing and the economic margins for livestock production are decreasing. On the other hand, animals are a core element of the biodynamic farm (the “farm organism”) and many biodynamic farmers feel themselves deeply committed to an ethically sound animal husbandry within their farms.

This was the background on which the role of the animals on the farms and the responsibility of the farmers towards the animals were discussed in manifold different perspectives. Farm situations from all continents were presented to the audience and in smaller working groups different topics as for example keeping
dairy livestock, keeping poultry, working with horses, livestock and pedagogics, feeding and slaughtering were discussed.

The significance of the animals within balanced farming systems, which rely on almost closed nutrient cycles, but also the cultural importance of a realized human-animal-relationship, which is rooted in agriculture, became very obvious during the presentations and discussions of the four days. A particular sensitive issue, discussed from various viewpoints, was slaughter. It appeared as the most crucial ethical question to be solved on different levels (from the practical to the philosophical) in contemporary livestock farming.

Overall, the conference appeared as a clear commitment of the biodynamic movement to an integrated livestock husbandry which is based on ethical principles and a kind of partnership with the animals.

More information:
http://www.sektion-landwirtschaft.org/Aktuell.5259.0.html?&L=1

19th Organic World Congress to be held in New Delhi, India, 9-11 November 2017

The formal Memorandum of Understanding between IFOAM, Organic Farming Association of India (OFAI) and PDA Trade Fairs was signed at Nuremberg, Germany, on 13 February, 2015 to hold 19th Organic World Congress during 9-11 November 2017 at New Delhi, India. In October 2014 the IFOAM General Assembly voted overwhelmingly to accept the bid made by OFAI in preference to other bids that came from China, Russia and Brazil.

OFAI Director Claude Alvares, IFOAM President Andre Leu, PFA Head Honcho Pradeep Deviah
and Dr. A.K. Yadav, former Director of the National Centre of Organic Farming, India.
(Photo: Ashish Gupta)

IMPRESSUM

The newsletter of the IFOAM Animal Husbandry Alliance (IAHA) is published by the International Federation of Organic Agriculture Movements (IFOAM), Bonn/ Germany, and the Research Institute of Organic Agriculture (FiBL), Frick/ Switzerland.
Edition: Muazzez Cömert, Turkey, and Otto Schmid, FiBL, Frick, Switzerland
January - February - March 2015/ Newsletter No 5
The newsletter is available online at the IAHA Website: http://www.ifoam.org/en/sector-groups/iaha-animal-husbandry-alliance

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IAHA Newsletter, February 2015

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