

As regards the physical and sensory factors studied (mastication, hearing and sight), there were no significant gender differences, rather a worsening with age, where in the group of over 75-year olds 1 in 4 people have one or more such impairments. An increase in age is associated with 2 further important problems for health and quality of life: depression and the frequency of falls, both of which are considered, together with incontinency and cognitive disorders, as “disastrous” conditions that are more frequent in women.

This confirms the validity of the WHO’s call to dedicate special attention to women in this age bracket, who are often disadvantaged.

As regards the activities of daily living (ADL) and instrumental activities of daily living (IADL), there is, as is predictable, an increase in limitations with age, that is slightly greater for the female gender, in which disability (measured using the Katz index), is close to 25%.

As regards the WHO’s call to promote the participation of people over 74 in all forms of social expression, in the home and in residential facilities alike, the survey shows that, without any significant differences in gender, 1 person over 74 out of 2 is a “resource”. This percentage is halved (1 in 4) for those over 75, but nevertheless constitutes a factor that characterises our culture and our social system, which is essential for supporting important activities within the family, such as looking after grandchildren.

Safety is fundamental for active ageing. Safety can be explained by very diverse variables, for example familiarity with the measures needed to protect oneself from heat waves and a knowledge of the need to have an annual influenza vaccination, represent a form of empowerment: without any significant gender differences and with very slight differences between the two age groups, just over 1 in 3 people is able to defend him/herself against the heat, whereas 8-9 out of 10 are aware of the importance of vaccination.

Safety can also be declined in terms of a

correct use of medication, however for this aspect, without age or gender differences, 1 in 2 people are probably not adequately aided or supervised by medical professionals. Lastly, safety also involves the possession of a home and is certainly expressed by the perception that people have of the ease of getting to the end of the month on their own financial resources.

In full agreement with the approach put forward by the WHO, which considers the ageing population an important success that generates a great challenge, a number of priorities can be identified:

- the promotion of actions on lifestyles and changeable risk factors that contribute to the development of disease and the loss of autonomy, targeting them for different age ranges;
- the implementation of policies aimed at supporting “active and normal” ageing, by focussing on all the factors identified as determinants of active ageing;
- the integration, on a central, regional and local level, of the various strategies and different approaches, in order to give answers that deal with the complexity and structure of the elderly’s needs;
- the promotion of activities aimed at guaranteeing the continuity of support to elderly people and their families, for social inclusion, the maintenance of a good quality of life and as a countermeasure to fragility and its effects.

4.4. The health of immigrants

According to Istat data, on 1 January 2010, 4,235,059 foreign residents were resident in Italy, of whom 2,063,407 males and 2,171,652 females, equal to 7% of the entire resident population.

About half of the foreigners residing in Italy originates from European countries – 1,265,665 women compared to 1,003,621 men.

The epidemiological profile shows an immigrant population that in general gets sick less, since those who have chosen to emigrate from their country had a good health capital (although the people immigrating into our country for family reunification

do not have the same protection) and express lower health requirements, partly due to cultural and material difficulties in accessing services. In any case, we are starting to see significant specific excess morbidity and unfavourable outcomes, consequences of unsafe living or working conditions (traumas) or the risk factors characterising their areas of origin (imported diseases, such as those that are endemic or are typical hereditary conditions in their country of origin) or errors in the care pathway that are particularly evident in the perinatal period. Less favourable health conditions can also be observed in people with a lower social status amongst foreign citizens.

In 2009, the number of foreigners rose 343,764 units (+8.8%), an increase that is still very high, despite being lower than that observed in the previous two years (494,000 in 2007 and 459,000 in 2008, +16.8% and +13.4%, respectively), primarily due to the reduction in immigration from Romania. An analysis of CeDAP data for 2008 shows that in 16.9% of births the mother is not an Italian citizen.

The percentage of pregnancies in which the first doctor's visit takes place after the 12th week of gestation is 16.2% for foreign women and 3.3% for Italians.

There are 932,675 minors, 22.0% of all resident foreigners. Approximately, 573,000 are born in Italy, whereas the remainder come to this country under family reunification procedures.

In 1995, the year of the first systematic collection of data concerning citizenship, 8,967 foreign women had an abortion in Italy, this figure was 40,224 in 2007 and 38,843 in 2008, with a stabilisation in the absolute values of abortions. Knowledge of the citizenship of foreign women is essential information for those working in the abortion prevention field, since, in order to be efficacious, the specific prevention initiatives must take into account the diverse living conditions, cultures and customs. This more general need that must take the concrete form of guiding social and medical pathways and services, makes it possible to im-

prove the accessibility of services and the usability of services by the immigrant population.

5. Food safety

5.1. *The health status of livestock*

Current healthcare policy in the management of the most common infectious and contagious diseases amongst domestic animals has gradually focused on prevention activities rather than eradication.

The principle of guaranteeing animal health, as well as the coordination and uniform application, across the country, of initiatives, activities and measures related to animal health, also for international prophylaxis purposes, in observation of the obligations imposed by EU regulations and the International Code of Animal Health published by the World Organisation for Animal Health, remains the primary aim of the public veterinary system.

In compliance with the provisions set forth in recent EU policy on animal health, in the light of the achievements made and those yet to come, the Italian public veterinary health system can be considered absolutely adequate and strong.

Blue tongue is an infectious disease transmitted by insect carriers and affects all ruminant species, particularly sheep. The national epidemiological situation has for years been constantly monitored through the Surveillance System, which envisages periodic checks in sentry farms and traps for carriers.

African swine plague appeared several years ago in Sardinia and despite the adoption for the past thirty years of all those measures needed to eradicate it, it still represents an unsolved health problem. Unfortunately, the constant presence of outbreaks of African swine plague in Sardinia represents an undeniably limiting factor on the exportation of Italy's pork.

In the 2009-2010 two year period, there was a sudden outbreak of the disease, with 11 outbreaks reported in just three months. The situation concerning the outbreaks in Sardinia is undergoing a non-positive evo-

lution, with an increase in the number of outbreaks and an expansion also in the areas involved.

In 2011, the activities envisaged by the eradication plan involved the intensification of checks on swine registers, the fine-tuning of checks for family-organised slaughter and in public catering and the confirmation and fine-tuning of all the medical measures protecting the exportation of pork products pursuant to applicable EU regulations.

Porcine bladder disease is a contagious infectious disease that has been present in Italy for many years. It has been wiped out in most Italian Regions, persisting in just two Regions of Central and Southern Italy (Campania and Calabria). Italy is in the process of submitting a programme for the eradication and control of the disease to the European Commission for its technical and financial approval.

The programmes for the last two-year period, 2009-2010, introduced an intensification of surveillance and vigilance activities on pig farms. The intensification of the surveillance and vigilance activities implemented during the last two-year period produced a significant reduction in the number of outbreaks reported nationwide, whereas the presence of outbreaks persists in the Campania region, particularly amongst livestock destined for home consumption.

Although the epidemiological data for the last two-year period is encouraging, eradication for the whole of the country and the revocation of current health measures for those Regions that are not yet accredited, require an accurate and correct application of the eradication and surveillance programme envisaged for this disease.

Bird flu. Over the past decade, the spread of infections supported by bird flu virus amongst animal populations is a phenomenon that has affected several Countries worldwide.

Of the surveillance activities conducted in Italy over the past two years (2009 and 2010) single positivities have been reported for influenza virus strains belonging to low

pathogenicity subtypes. The rural sector, in which most outbreaks occur, has been subject to specific new surveillance and prevention measures, which were issued with Ministerial Decree of 25 June 2010.

In 2009, the first human cases of influenza caused by type A, subtype H1N1v were reported in Mexico and the United States and very rapidly human cases of infection were reported all over the world.

In 2010, in compliance with the recommendations of the same international organisations and the European Commission, the levels of biosecurity in poultry and pork farms were raised also in Italy in order to minimise the risk of pandemic transmission of A/H1N1v virus from man to sensitive animal species.

It is also important to point out that bird flu is not a food-transmitted animal disease since the pandemic virus cannot be transmitted to man by eating meat or meat-based products.

Scrapie is a neurodegenerative disease caused by agents called “prions” that affects sheep and goats.

Although it has been known for some time that this disease is present in Europe, over the past decade it has taken on greater importance as it belongs to the group of transmissible spongiform encephalopathies, including BSE.

The incidence of the illness in Italy is 0.4%. As far as the measures of prevention are concerned, since 2004, Italy has been implementing genetic selection plans involving many Regions in the constitution of animal populations that are genotypically resistant to the disease.

Equine infectious anaemia virus is a contagious disease of viral origin particular to equids, with an acute or chronic and unapparent course, characterised by persistent viraemia, recurrent fever, progressive weakening and, in the most severe and terminal cases, by an intense oligocytaemic state.

It is subject to mandatory reporting both in Italy and on an EU level.

In 2009, the number of new outbreaks dropped significantly and central Italy was,

once again, the worst affected area. An Order was issued on 8 August 2010 with the title “National surveillance plans for equine infectious Anaemia”, which will expire in September 2012. Over the course of the year, the number of outbreaks remained constant compared to the previous year’s figures.

Our country has invested a great deal into protecting its equine heritage, which has made it possible to combine health interests with commercial ones, thereby avoiding possible restrictions on the transportation of these animals that have been implemented in certain Member States. The significant experience acquired and the commitments undertaken by Italy in this field will mean that when the Order expires in 2012, business in this sector can be directed in the best possible way, providing a model that other Member States can follow in implementing EU directives in the future.

5.2. Zoonoses

The term zoonoses is used to indicate an important group of infectious diseases that can be transmitted by animals to humans and vice versa. From an aetiological standpoint, zoonoses can be caused by virus, bacteria, mycetes, single-cellular or multicellular organisms or parasites as well as subviral forms such as prion proteins in the case of transmissible spongiform encephalopathies (TSE). They are illnesses that can be transmitted by means of the most common ways of contagion (oral, and therefore alimentary, aerogenous, by direct or mediated contact, mediated by carrier insects, etc.).

Brucellosis is a serious zoonosis with a considerable social and economic impact.

In Italy, as in other European Union countries, all cattle, buffalo, sheep and goat farms are subject to mandatory checks. If an outbreak of brucellosis is identified, it must be eliminated immediately by the compulsory slaughter of all positive animals and their offspring, on account of its being highly infectious for humans and animals.

The most recent data show that in 2009, in Italy, 99.3% of cattle farms and 96.9% of

sheep and goat farms had been inspected. 1.07% of cattle farms and 1.55% of sheep and goat farms tested positive for brucellosis. The region with the highest prevalence in 2009 was Sicily, with 6.72% farms testing positive for bovine brucellosis and 13.19% positive for sheep/goat brucellosis. The data for 2009 continue to show, compared to previous years, that the eradication programme is yielding satisfactory results in northern and central regions of Italy. However, in certain southern regions, especially in Sicily, the prevalence of this disease is still high, particularly in certain areas in which cultural and environmental conditions make inspections difficult.

Bovine tuberculosis is a disease with considerable social, economic and public health effects.

The main source of contagion for humans is contact with infected animals and the consumption of products from infected animals, particularly derivatives of non-pasteurised milk. In Italy, as in other European Union countries, the eradication plan involves annual inspections on all cattle over six weeks of age in officially unaffected breeding facilities.

The most recent data shows that in 2009, 99.2% of cattle farms had been covered by the eradication programme nationwide. 0.61% of inspected farms tested positive for bovine tuberculosis. The region with the highest prevalence in 2009 was Sicily, where 3.71% of farms tested positive for bovine tuberculosis.

The data for 2009 continue to show, compared to previous years, that the eradication programme is yielding satisfactory results in northern and central regions of Italy. In some regions in the south, however, particularly in Sicily, the prevalence of the disease remains high, for the same reasons as indicated for brucellosis.

The term *salmonellosis* is used to indicate a set of conditions caused by *Salmonella* spp., bacteria normally present in the digestive system of many animal species. The 2003/1999 zoonosis directive and relative implementation regulation 2003/2160 require Member States to undertake a series

of actions “from the shed to the table”, with inspections throughout the supply chain, in order to protect consumers from a number of alimentary zoonoses. The regulations indicate all the serotypes of salmonella of relevance to public health, for which EU targets for a reduction in prevalence must be set. The Ministry of Health implements the envisaged health measures by means of national plans approved by the European Commission. The European Commission provides 50% of the funding required by the plans and each Member State has an expenditure ceiling.

The data relating to salmonella plan activities is entered in a computerised system established at the Centre responsible for veterinary epidemiology, the Istituto Zooprofilattico Sperimentale dell’Abruzzo e Molise (Institute of Experimental Animal Disease Prevention of the Abruzzo and Molise Regions). The recent statistics present since January 2011 in the National Poultry Farming Database allow automatic access to the data required to plan these activities.

In Italy, *urban rabies* was wiped out in 1973. However, “woodland” as opposed to “urban” rabies, almost exclusively involves wild animals, and in particular foxes, and must be controlled and wiped out as soon as possible, to prevent it spreading to domestic animals that live in direct contact with humans. The areas involved in 2009 and 2010 were those of the Friuli region and part of Veneto. Given the risks for domestic animals and man, in December 2009 a large-scale campaign was launched to vaccinate foxes against rabies, using special vaccine-laden bait, distributed also using the GPS system able to locate the exact position of the bait in the areas involved. In 2010, as part of the surveillance activities, 7,526 animals were checked to establish the levels of incidence, of which 209 tested positive for the disease, all of them belonging to wild species. The oral vaccination campaign in foxes is being conducted in 2011 and will continue in the 2012, following the same procedures as in 2010. The campaign is combined with an on-going

surveillance plan making it possible to monitor disease patterns nationwide and to adapt the vaccination plan in affected areas accordingly.

Trichinellosis is a serious zoonosis, supported by a group of roundworms with a cosmopolitan geographical diffusion. They infest most animals, including reptiles, birds and man. Pig carcasses are at particular risk of trichinellosis infection and mandatory inspections are therefore performed throughout the European Union (EC Reg. 854/2004). Since the issuance of Ministerial Order of 30 October 1958, the meats of all slaughtered pigs, including those for family consumption, are systematically tested for trichinella. Since 1994, the test has also been performed on all slaughtered equids pursuant to Legislative Decree 286/1994. Since 1 January 2006, the tests performed for trichinella in the meat of receptive animal species are those indicated in EC Regulation 2075/2005. Human trichinellosis has been subject to mandatory reporting since 1990. Affected subjects risk developing a severe, potentially fatal disease. The illness is well known and can be diagnosed by both hospital doctors and general practitioners. Since 2008, there has been a significant increase in the entries in the national data base by pig farms that are qualified as “trichinella-free farms”.

West Nile disease is a meningoencephalitis of viral origin, transmitted primarily by vectors, that affects wild birds and some domestic birds. It can also affect mammals, particularly equids and humans. It is a zoonosis for which there is no vaccine available for human use; consequently the only way to prevent infection is to reduce exposure to mosquitoes, by using repellents and protective clothing.

The virus has been isolated in more than 150 species of domestic and wild birds, the main vertebrate hosts. Mammals play a marginal role in the virus’ transmission and diffusion. West Nile disease is maintained in nature by a primary mosquito-bird-mosquito transmission cycle.

A Surveillance Plan has been implemented in Italy since 1998 and was subsequently

stepped up in 2009 following an epidemic involving certain areas of the Veneto, Emilia-Romagna and Lombardy regions. As regards vigilance activities in 2010, there was a clear reduction in positive cases in the areas involved by the 2008-2009 epidemic, however new areas have been affected by viral transmission (the province of Trapani). We are currently experiencing an increase in the areas affected by the virus, as shown by the positive results obtained in sentry chickens and wild animals. Positive serum test results have been recorded in certain Regions in particular.

BSE is a transmittable spongiform encephalopathy that affects bovine species. Epidemiological studies and laboratory research have established a close relationship between this condition and a specific variant of human Creutzfeldt-Jakob disease. In 2001, the European Union launched a large-scale plan to wipe out the disease, based on the prohibition of using animal flours to feed livestock, the removal of specific material at risk and the monitoring of dead and slaughtered bovines. Italian data shows that as early as 1998, the risk for cattle of contracting the disease was one of the lowest in Europe. In addition, no Italian cattle born after February 2001, the year in which the EU control measures were introduced, has tested positive for BSE.

5.3. Utilization of European Community funds against infectious diseases

For the eradication, control and surveillance of certain animal diseases and zoonoses, financial support is granted from the European Community. As for Italy, according to resolution 2009/470/CE and after resolution 2010/712/CE dated November 23, 2010, reimbursement amounts have been established for eradication programmes concerning some animal diseases.

Currently, the global economic crisis has prompted the European Community to start a revision process concerning co-financing policies, so that in the future, co-financing in the European Community is expected to decrease.

5.4. Diseases transmitted by food

The incidence of diseases that can be transmitted by food or foodstuff toxoinfections is on the constant increase in industrialised countries. This tendency can be attributed largely to the changes in consumers' choice of food products. The epidemiological setting concerning alimentary toxoinfections has undergone profound changes, due to the emergence of new pathogenic agents (such as *Escherichia coli* and new *Salmonella* serotypes).

The developments in food safety, the target of numerous regulatory provisions both in Europe and Italy, involve the performance of inspections in all phases of the food chain, from the production of feed to the distribution of products to the consumer.

The role played by the Ministry of Health is to coordinate the activities performed nationwide, thereby guaranteeing uniform application of such regulations to protect consumers.

The Regional Authorities collect, analyse and submit to the Ministry of Health data concerning the incidence of zoonoses, zoonotic agents and the related resistance to antimicrobial agents.

Data collection is aimed at identifying and describing dangers, evaluating exposure and characterising the risks connected with zoonoses and zoonotic agents. Surveillance is performed by the local health authority competent for the area.

The reporting of human cases of diseases transmitted by food is governed by Ministerial Decree of 15 December 1990, in combination with Ministerial Decree of 21 December 2001 "Mandatory Surveillance of Creutzfeldt-Jakob Disease".

In addition to the database of the National Infectious Diseases Surveillance System, the sources of surveillance on diseases transmitted by foods in Italy include the dedicated "ENTER-NET" system, part of a European surveillance network for pathogenic enterobacteria. The National Institute for Health (ISS), which coordinates this surveillance work, collects data from NHS laboratories, as indicated in Ministry of Health Circulars no. 163 of 1967 and no. 16 of 1984.

Report data for diseases transmitted by food, which has been examined for over a decade, from 1998 until 2009, reveals how the incidence of the various illnesses observed has undergone substantial changes over time.

Non-typhoidal salmonellosis, which in 1998 had an incidence of 25 cases per 100,000 inhabitants, has dropped slowly but steadily, and as early as halfway through the last three-year period, it had an incidence of approximately 12 cases per 100,000 inhabitants.

The incidence of brucellosis has remained almost constant over time, with values of between 2 cases per 100,000 inhabitants in 1998, to just less than 1 in recent years.

Listeriosis is the only disease that appears to be following an opposite trend, i.e. a very slight increase in incidence [0.1 cases per 100,000 inhabitants in 1998 and 0.2 over the past three years (2007-2009)].

The incidence of typhoid fever started from values of 1.2 in 1998 and is steady after one decade: 0.2 cases per 100,000 inhabitants (2008 and 2009).

As for non-typhoidal salmonellosis, the incidence of hepatitis A has also dropped by approximately half: in 1998 there were over 5 cases per 100,000 inhabitants, which has decreased to 2.3 in the past three years.

An analysis of human surveillance data concerning the frequency of these diseases shows that they still have a strong impact on the health of the community.

This calls for the encouragement of a strategy aimed at implementing the diagnostic capacities of the regional laboratories, the availability of operative protocols for in-the-field investigations of infectious outbreaks caused by the agents responsible for diseases spread by food and a better integration of epidemiological and laboratory surveillance systems, between human and veterinary public health services.

5.5. *Environment and foods*

Over recent decades, the frequent finding of certain environmental pollutants in food products has become a priority issue for public health. It is known that the most sig-

nificant food product contaminations take place in primary production (livestock), a process already subject to surveillance through the implementation of the Ministry of Health's National Residues Plan.

However, in order to safeguard public health, health risk management alone is not sufficient. Adequate environmental monitoring is required to identify and remove sources of contamination. To do so, the Ministry of Health has stepped up its partnership with the Ministry for the Environment and Protection of the Territory and Sea (MATTEM) through its active participation, since 2009, in the Conferences for services for the management of Sites of National Interest (SNI), on account of the close relationship between environment and health.

The Ministry's activities also included, in 2009, the planning of a "Feasibility study for a plan for the national monitoring of environmental contaminants in products of animal origin". This study made it possible to obtain, through cooperation with the ISS, a list of the main environmental contaminants of interest for food safety.

Given the knowledge acquired, a draft monitoring plan was drawn up and later approved by Regional and Autonomous Provincial authorities, Experimental Animal Disease Prevention Institutes, National Institute for Health and the Risk Evaluation Centre (IZS dell'Abruzzo e del Molise), which paved the way for the drafting of the "National plan for the monitoring of environmental contaminants in food products of animal origin in sites of national interest".

The aim of this plan is to provide data on the migration of pollutants in the food chain. In Italy there are currently 57 Sites of National Interest, with a total surface area of 7,300 km², equal to 3% of the whole national territory: 1,800 km² are constituted by marine, lagoon and lake areas, 5,500 km² by land. This plan, released in 2011, had a three-year duration and will make it possible to monitor all the SNI of interest for food safety.

In order to prevent risks for public health,

it is prohibited to introduce products containing unacceptable levels of residual substances onto the market. These pollutants are the results of environmental conditioning or the treatments performed on the food products after production and they can constitute a risk for public health.

The European Union has set acceptable contaminant thresholds, keeping them at the lowest possible levels. Specifically, in 2010 three multi-year monitoring Recommendations were approved and adopted to study both the presence in the environment of substances used on a large scale in industry, such as perfluoroalkyl substances (PFAS), and the presence of contaminants that can form unintentionally during preparation processing, such as acrylamide in certain food products that are cooked and ethyl carbamate in spirits made using fruit with stones.

In addition to the above, EU negotiations are on-going concerning proposals for regulations that

- introduce new upper limits for certain persistent organic contaminants (dioxins and dioxin-like PCBs, non-dioxin-like PCBs);
- update/amend the maximum thresholds for aromatic polycyclic hydrocarbons (APHs). In particular, as an amendment to existing regulations that identify benzo[a]pyrene as an indicator of the presence and effects of APHs in foodstuffs, new ceilings are being established for the sum of four aromatic polycyclic hydrocarbons (APH-4), on the grounds that it is a more suitable indicator than benzo(a)pyrene;
- introduce new limits or alter existing limits for heavy metals in certain food matrices and for nitrates in leaf vegetables.

As part of the monitoring of contaminants in human food products, since 2007, the European Commission has asked the Member States to collect data concerning the high levels of acrylamides in food products, in order to evaluate the connection between acrylamide and cancer. Acrylamide (AA) is a substance that can form in foodstuffs,

usually in amylaceous products, such as fried potatoes and potato chips, bread and rusks, during the cooking process at temperature equal to or higher than 120°C. It is a known carcinogen in laboratory animals and potentially toxic for humans and therefore every effort must be made to minimise the exposure deriving from all sources, including the diet.

It is important to point out that, at the current state of affairs, there are no legally-binding upper limits for AA in Italy or the EU. The aim of the monitoring campaign is to collect, throughout the Community for a certain period, reliable data on the acrylamide content in foodstuffs, to obtain a framework for those food products known to have a high acrylamide content and/or that notoriously make a significant contribution to its dietary consumption by the population as a whole and for particular vulnerable groups such as breastfeeding babies and toddlers. The data obtained will be used to define guideline values and/or ceilings for the various alimentary matrices.

It is interesting to note that in 2009, the monitoring involved more Regional and Autonomous Provincial Authorities than ever before. This made it possible to achieve the minimum number of 194 samples for analysis, established for Italy in Commission Recommendation 2007/331/EC.

5.6. Plant health products and food safety

Plant health products, also known as pesticides, antiparasitics or plant protection products, are intended to protect crops from disease and parasites before and after harvesting.

Plant health product residues are the substances detected in the plants or processed products, animal products intended for human consumption or in the environment, due to the use of a plant health product. The quantity of residues detected in food must be safe for consumers and as low as possible.

The authorisation to market and use a plant health product is issued by the Ministry of Health, following conferral with the

Plant health product advisory commission. Italy is a country with a great agricultural vocation and manages approximately 7,000 plant health product authorisations.

Official monitoring of the residues of plant health products in foodstuffs is a food safety priority and is aimed at verifying compliance with legislative provisions intended to prevent risks for public health and protect consumer interests.

Plant health product residue analyses are performed by official monitoring laboratories (Regional Environmental Protection Agencies, Multidistrict prevention centres and Institutes of Experimental Animal Disease Prevention), coordinated by 4 national reference laboratories, that also have the task of interfacing with their counterparts in other EU countries.

The data collected by the laboratories is processed on a central level for the drafting of the annual report that is submitted to the European Food Safety Agency (EFSA) and other Administrations involved in the official monitoring of plant health product residues in foodstuffs.

As part of the official national monitoring of plant health product residues programme, in 2009, a total of 5,573 samples of products of plant origin were analysed: fruit, vegetables, cereals, wine, oils and, for the first time ever, baby foods.

Samples exceeding the maximum residue limits (MRLs) established by Commission Regulation 396/2005 are considered non-compliant.

The number of fruit and vegetable product samples analysed was 4,595. There were 4,557 (99.2%) compliant samples and 38 samples were non-compliant (21 for fruit and 17 for vegetables) with a very low percentage of non-compliance, equal to 0.8%. As regards the national results for cereals, oils and wine, of the 877 samples analysed, 2 were found to be non-compliant, with a percentage equal to 0.2%. For the first time tests also involved baby foods and of the 101 samples analysed all were found to be compliant.

Since 1993, the percentage of non-compliance has undergone a constant drop, pass-

ing from 5.6% in 1993 to 2.1% in 1996, before reaching a decidedly limited level in 2009 (0.8%).

The level of non-compliance detected appears to be well below the average level detected in other EU countries. This positive result in Italy can be attributed, in part, to the work of the bodies engaged in continuous monitoring activities and in part to the constant, more restrictive review by the Ministry of Health on a number of permitted uses, and farmers' growing awareness of how to use plant health products.

The result for the official monitoring of plant health product residues for 2009 provides a broad overall framework that satisfied the health objectives set for the official monitoring of food products both in Italy and in the EU.

It also confirms the high level of food safety on plant products and a high level of consumer protection.

5.7. Animal welfare

Scientific research has shown that the observance of the livestock welfare conditions is of fundamental importance to the wholesomeness of their derivatives and, consequently, for the protection of consumer health.

The protection of livestock during the farming phase, transportation and slaughter, with the relative repercussions on the protection of public health, constitutes one of the priority aims of the EU, which since 1974 has issued legislative provisions, all of which have been duly implemented and monitored also in Italy.

The direction adopted by applicable regulations aims to guarantee the self-auditing of food production, supply chain traceability and correct consumer information on the origin of animal products, particularly the farming practices used, in order to allow the consumer to make a well-informed choice, not only regarding the quality of the product, but also his/her own ethical and moral requirements.

Applicable regulations place significant importance on the "training" of sector workers (farmers, transporters, slaughterhouse

staff), so that all sector players are informed about the regulation and the application of good farming, transportation and slaughter practices. The improvement in the man-animal relationship also favours an improvement in livestock production from a health and quality standpoint.

The competent local Veterinary Services perform checks on the application of the animal welfare regulation and submit an annual report on the outcomes of this work to the Regional or Autonomous Provincial Authorities, which in turn transmit aggregate data to the Ministry.

The new National Animal Welfare Plan, scheduling checks during the farming, transportation and slaughter phases was published in July 2010.

In order to improve the application of current regulations on the protection of animal welfare and urban hygiene, the Ministry of Health has set up a Unit for the protection of pets and prevention of straying and maltreatment.

This Unit performs inspection and monitoring activities in close connection with the NAS division of the Italian Carabinieri specialised in health-related issues, acting reports by animal welfare associations, private citizens and local Administrations. It also provides support for the territorially competent Institutions. Between 21 May and 31 December 2010, 18 inspections were carried out in kennels and catteries with the aid of the NAS division of the Italian Carabinieri, some of which were put under restraint orders and duly reported to the Public Prosecutor's Office.

For the two-year period considered, 38 inspections were carried out (of which 12.5% were not announced beforehand) in facilities using animals, to verify correct application of applicable regulations on animal experiments. In Italy, the use of animals for experimental purposes underwent a constant downward trend between 2007 and 2009, from 908,002 animals in 2007 to 864,318 in 2008 and 830,453 in 2009.

The new European Directive 2010/63/UE concerning the welfare of animals used for scientific and experimental purposes has

the ultimate aim of replacing procedures using animals by promoting and developing alternative methods with the establishment of a European Centre with the task of validating such techniques.

As regards animal experiments for the testing of cosmetic products, Italy is in line with the direction of the European Parliament aimed at a gradual and total ban: in 2009, no animals were used in toxicology tests on finished cosmetic products and no experiments were performed to test industrial, household or multipurpose products that could be used as a component in cosmetic products.

5.8. Animal feeds

It has now been proven, also by recent developments in the food safety sector, that the quality and safety of animal feeds are fundamental prerequisites for animal health and welfare, as well as the production of foodstuffs of animal origin that are wholesome and safe for the protection of public health.

Since 2000, the Ministry of Health has devised a "National plan for the Health-related Surveillance and Vigilance of Animal Feed", aimed at contributing to animal health and wellness and guaranteeing the wholesomeness of products of animal origin destined for human consumption through vigilance and official monitoring, of both an inspectional and analytic type, along the whole feed supply chain.

This National Plan is run by the Ministry of Health in association with the National Institute for Health, the Ministry for Agricultural, Food and Forestry Policy - Central Inspectorate for the monitoring of the quality of agricultural food products, the Regional and Autonomous Provincial Authorities, Institutes of Experimental Animal Disease Prevention, National Monitoring Centres and National Laboratories.

The Ministry of Health coordinates the vigilance and monitoring work on a national level and sends the National Plan to the Regional and Autonomous Provincial Authorities, which, through their Departments for Health, develop a regional pro-

gramme, providing detailed indications and instructions to the local health authority, to guarantee the correct application of the Plan.

The inspection work is performed in all feed sector businesses, including primary producers, farming facilities, feed factories, dealers, food sector companies that supply by-products for animal feed and feed transportation companies to make sure that they possess and maintain the structural and functional requisites for the feed sector companies being monitored.

During 2009, some 28,656 inspections were carried out along the production chain, starting from primary production through to the administration of the feed to the animals.

These verification activities resulted in the detection of 1,202 non-compliances and the main shortcomings detected regarded the structural requisites of the plants, self-audit plans, feed storage procedures, measures for protection against parasites, the absence of good practice handbooks and staff training.

Sampling work performed in 2009 saw the Veterinary Services involved, as usual, in a large-scale campaign that led to the collection of 13,061 samples, collected during the various phases of production, use, distribution and transportation of feed.

As regards the level of implementation for the activity scheduled for 2009, it can be said that 98.9% of scheduled activities was performed, indicating an unexpected programming of 1.1%.

In the analyses performed in Institutes for Experimental Animal Disease Prevention, 71 samples were found not to meet regulation requisites. 0.54% of samples taken were non-compliant.

Again in 2009, as for previous years, the highest percentages were for programmes concerning the monitoring of microbial *Salmonella* spp. contamination and GMOs. In the event of non-compliance, suitable action is taken to protect animal and public health.

As regards BSE prevention monitoring, in 2009 just 1 feed sample was found to be

non-compliant (of the 2,965 samples taken, equivalent to 0.03%).

As far as *Salmonella* spp. contamination monitoring is concerned, 20 non-conformities were detected (out of 1,756 samples, equal to 1.13%). The finding of 20 non-compliant samples due to presence of *Salmonella* spp. is something that must be taken into account, as the presence of salmonella in feed still remains a critical element for the protection of animal and human health.

The data received from the Regional and Autonomous Provincial Authorities concerning GMO contamination monitoring activities showed 13 cases of non-conformity, of which 8 (out of 590 samples, the equivalent of 1.35%) within the Surveillance activities and 5 (out of the 268 samples taken, equivalent to 1.86%) as part of the Vigilance work. Non-compliance for GMOs is often attributable to labelling errors and not always to the presence of unauthorised GMOs. In this context an important role is played by “unintentional contamination”, which can, of course, go unnoticed by the operator.

5.9. Productive technologies and food biotechnologies

Foodstuff production technologies have been used since ancient times to obtain the various food products available from the raw materials of plant and animal production. They have been refined and developed over the years to improve the quality of the food products, their shelf life, taste and appearance and they use, alongside traditional techniques, also the most up-to-date scientific innovations. As part of the national and European legislation process, the Ministry of Health participates in the preparation of EU regulations and adopts national provisions, governing issues relating to the chemical safety of additives, flavourings, enzymes and materials and objects destined for contact with the food products.

Food biotechnologies and the use of genetically-modified organisms (GMOs) are issues of great current interest for both sector players and consumers.

The Ministry of Health believes it is of fundamental importance to explore and improve risk assessment for these products, in order to respond also to the requirements of public opinion and Italian consumers, who are concerned about the impact on health and the environment, as well as the loss of the country's agricultural food heritage.

Indeed, in 2010, the Italian Ministry of Health asked EFSA (the European Food Safety Authority) to step up the initiatives for the prospective and systematic evaluation of the effects on human and animal health connected with the consumption of GMOs, also on the basis of the checks performed both within and outside the EU.

So far, in Italy, no genetically modified plant is farmed for retail purposes, although their products can be marketed providing labelling rules are satisfied. This guarantees that information is provided to the consumers and users of these products, thus allowing them to make a well-informed decision.

A GMO or derived product can only be marketed in Europe following authorisation through a complex procedure that involves assessment of the risks for human health and the environment.

The Ministry of Health is Italy's competent authority for the marketing authorisation of GMOs or genetically-modified food products or feeds. The Ministry also takes part in EU work to implement European policy in the sector and for the issuance of authorisations for new GMOs.

On a national level, in the genetically-modified food sector, the Ministry directs and coordinates the official inspections scheduled by the Regional or Autonomous Provincial Authorities and conducted by the local health facilities, by drafting specific monitoring plans, whose results are published every year.

Since 2006, the Ministry of Health has implemented a three-year National Plan for the official monitoring of the presence of GMOs in foods, in order to facilitate the programming and coordination of monitoring activities performed in this specific

sector by Regional and provincial health authorities.

The implementation of the National Plan, which was also prepared for the three-year period 2009-2011, is implemented by:

- the Regional Authorities and the Autonomous Provincial Authorities of Trent and Bolzano;
- the Ministry of Health's maritime, air and border safety bureaus (USMAF);
- the Institutes of Experimental Animal Disease Prevention, Regional Environmental Safety Agencies (ARPA), the Local Health Authorities (ASL) and other laboratories appointed by the competent Authorities;
- the National GMO Research Centre (CROGM), headquartered at the Lazio-Tuscany Institute of Experimental Animal Disease Prevention, in its capacity as the central national laboratory, pursuant to EC Regulation 882/2004;
- the National Institute for Health.

During the nationwide monitoring activities, samples were taken of processed and unprocessed corn, soya and rice products.

The results obtained show that the percentage of non-conformities detected in monitoring nationwide and importation is extremely low (less than 0.09%).

Nevertheless, importation remains a fundamental link in the chain of official monitoring, since although GMO farming is prohibited in Italy, it is permitted in other non-EU countries that export plant products.

The results obtained from the official monitoring activities conducted by the national health Authorities in this sector for 2009 confirm that most food products on the Italian market respect the labelling requisites set forth by current regulations and that the presence of GMOs in food products in Italy is limited and almost negligible.

5.10. Results of tests on foodstuffs

The National Integrated Plan (NIP) and annual report are the result of the implementation of EC Regulation 882/2004. The report brings together all the results of

the official monitoring activities performed as part of the activities covered by the Plan, including the official testing of food and beverage products, thereby providing a concise overview of all the elements needed to guide the management and planning of the various official monitoring activities.

Chapter 5 of the annual report contains the conclusion of the self-assessment process on the overall performance of the monitoring system in conducting the national monitoring plans.

In relation to the number of samples taken, the “Vigilance and monitoring of food and beverage products in Italy” Report for 2009 indicates that *Salmonella* spp. and *Listeria monocytogenes* were found to be present in various categories of food products. The contamination of foodstuffs by *Salmonella* spp., *Listeria monocytogenes* and *E. coli* was confirmed by the alerts involving Italian products received by other European Community countries during 2009. Emphasis is also placed on the importance of implementing checks on the products of plant origin subject to various alerts for the presence of *Salmonella* and the importance of testing for enterobacteria (hepatitis A and norovirus), an important cause of diseases spread through the consumption of food, as indicated by the number of cases of human hepatitis A reported in 2009.

Both the National Animal Feed Plan and the national Zoonosis Information System highlight the frequent finding of *Salmonella* in feed (which has also been confirmed by the increase in the alerts received for these products) and in some animal species, confirming the important role of animal feed and animal health on food safety. The presence of mycotoxins is significant in those food products for which EU ceilings are defined (dried fruit, cereals and spices). Heavy metal contamination is, as regards cadmium and lead, distributed over all type of food product and, as regards mercury, present in fishing products (predator fish). There is a non-negligible frequency of non-compliances for histamine in fish products, sulphites in shellfish and

meat products, nitrates in meat products and inhibiting substances in dairy and cheese products. As regards foods of plant origin, there is significant data for non-compliance due to polar compounds in fats and oils, indicating poor application of the correct working practices in the catering sector.

The alert system data for 2009 shows an increase in the number of reports due to the presence of allergens not indicated on labelling, constituting a potential risk for the susceptible section of the population.

The EU rapid alert system provides real-time notification of direct or indirect risks for public health related to the consumption of food products, feed and materials destined to come into contact with foods throughout the whole of the EU.

In 2010, 3,291 reports were submitted, confirming the increasing trend in recent years. In particular, 2,873 reports concerned human food (2,813 in 2009), 190 animal feed (201 in 2009) and 229 the migration of materials destined for contact with foodstuffs. The Commission also sent 62 news alerts and 129 follow-ups. The number of news alerts was also higher than the previous year (42).

Italy was the country with the highest number of reports sent to the European Commission in 2010, as in previous years, showing the intense monitoring activities taking place in our country, with a total of 548 reports (equal to 16.7%).

As far as Italian vigilance activities are concerned 205 reports were received from the regional Departments for Health, Local Health Authorities and the Health Protection Division of the Carabinieri (137 in 2009). Satellite Ministry of Health offices reported 343 non-compliances.

As regards origin, 113 Italian products were found to be non-compliant, making it the fourth EU country as regards the number of reports received behind German, Spain and France. On the other hand there was an increase in reports for fruit and vegetables, herbs and spices and meat, excluding poultry.

Of the biological contaminants, a high num-

ber of reports still concerns the presence of *Salmonella* (338 reports against 314 for the previous year). There was also an increase in the number of reports for *Listeria* and the finding of *Anisakis* larvae. An increase in the number of reports for norovirus compared to recent years shows that the value is still underestimated.

The most frequently reported chemical contaminants are micotoxins, followed by plant health product residues and migration of materials destined to come into contact with food products.

The other non-conformities concern the marketing of unauthorised novel foods (29), with a number of reports practically identical to that for the previous year and for unauthorised GMOs, which dropped from 104 reports in 2009 to 75.

A significant number of reports still concerned the presence of allergens not indicated on the label (67), despite the reduction in reports on the previous year's figure (97).

On several occasions critical issues emerged in the alert system concerning the slow pace of communication flows from some regional Departments, in particular concerning the distribution lists of contaminated products and the measures adopted. The traceability systems implemented by businesses were also not always efficacious and on occasions led to a slowdown in investigations and specific actions (withdrawal and call-back of non-compliant products).

An analysis of the data for 2010 could be useful for developing in a more efficacious manner the future planning of controls by monitoring bodies.

5.11. Audit systems in veterinary public health

The new food health model presented by European legislation and introduced with Regulation 178/2002, represents a fully blown re-organisation of EU regulations on food safety, destined to all food supply chain actors. It sets forth the general principles inspiring the subsequent issue of the "Hygiene Package" Regulations, introducing significant new aspects.

The priority responsibilities lie with businesses, whereas in their capacity as "Competent Authority", public service organs are responsible for verifying observance of provisions by food sector actors, through the implementation of an official monitoring system that falls within the essential levels of care the Italian NHS guarantees citizens. This system is governed by Regulation 882/2004 and has the aim of verifying compliance with regulations aimed, primarily, at:

- preventing, eliminating or reducing to acceptable levels the risks for human beings and animals, be they direct or environmentally-mediated;
- guaranteeing fair trading practices for feed and food stuffs and to protect the interests of consumers, including the labelling of feed and food stuffs and other forms of consumer information.

Six years from the issuance of Regulation 882/2004, it was noticed that the application of the Regulation's contents by the Italian public health system was not compliant to requirements. This called for the need to prepare a document that systematically reorganises in a standard manner the hefty requisites of Regulation 882/2004, to be applied to all levels of competent authority pursuant to article 2 of Legislative Decree 193/2007 (Ministry of Health, Regional Authorities and Autonomous Provinces and Local Health Authorities). The World Organisation for Animal Health (OIE), whose purposes include guaranteeing the health safety of international trading in animals and their derivatives and is the WTO's reference organisation for its area of competence, has introduced a process for verifying the performance of the veterinary services in member countries. Additionally, the European Commission has also taken action to provide an efficacious answer to international trade requirements, by identifying a dedicated organisational structure, the key to the governance of food safety and animal health throughout the EU: DG SANCO (Directorate-General for Health and Consumer Protection). In Italy the central authority is organised in

a similar way to the DGSANCO, with the establishment of the Department of Veterinary Public Health, Nutrition and Food Safety. As far as the Local Health Authorities are concerned, national provisions guarantee the satisfaction of these new needs. On the other hand, in relation to the organisational set up of the Regional and Autonomous Provincial Authorities, no regulatory provisions have been adopted yet, which has caused differences in the provision of services and activities across the country.

A cascade audit system has been launched between the competent Authorities (Ministry of Health, Regional Authorities and Local Health Authorities) for official audits intended to verify compliance with regulations on feed and food products and animal health and welfare regulations. The specific aim of the audits is to make sure that the aims of the aforesaid EU Regulation are satisfied. All Regions have launched initiatives in this sense, although the organisation of audit activities is still not homogeneous nationwide.

The Ministry's competent Department in turn performs audit activities on Regional Prevention Systems concerning food safety and veterinary public health.

Audit activities centre on aspects of national importance. In 2009, they were reorganised by defining rules and operating procedures and related checklists that have made it possible to step up the verification activities.

Each Regional/Autonomous Provincial Authority is expected to perform audit cycles generally broken down into 4 sector audits, with the purpose of evaluating, for each area of activity, both the systemic aspects (resources, programming, etc.) and the specialist elements of the sector undergoing audit and system audit at the end of the cycle, addressing the regional organisational facilities and local health authority prevention departments that taking into account also the aspects that come to light in each audit sector, verifies the organisation and the application of governance tools.

Between 2007 and 2010, the Ministry of Health organised training activities for

those members of its staff destined to perform the aforesaid audit activities.

The annual report on the National Integrated Audit Plan, which is also published on the institutional website, provides an account of the audit activities performed by the Ministry of Health and the Regional Authorities' Veterinary and Food Product Services.

To date the Ministry of Health has performed 71 audits, involving 18 Regionals and 126 Local Health Authorities, thereby completing 8 cycles. Over the past two years, as a consequence of the reorganisation, there has been a significant increase, with the performance of 21 audits in 2010, involving 12 Regions and 1 Autonomous Provincial Authority.

In 2009, the regional Veterinary Services and, in a few limited cases also those competent for food hygiene in general, performed 70 audits on the LHAs.

Overall the audits revealed:

- moderate progress in the planning, proceduralisation and accounting of official audit activities, albeit not on a homogeneous and fully efficacious level, between the LHAs of the same Regional Authorities and between the various Regional Authorities;
- a gradual increase in LHA audit activities;
- cooperation and integration with the Veterinary Services (SVET) and the Hygiene of Foods of Plant Origin Services (SIAN);
- SIAN's structuring has not yet permitted it to express its best operative potential. Indeed, staff are not dedicated exclusively to food safety tasks, often also performing other types of work in different operative areas of prevention;
- an ever-greater enhancement and use of institutional websites for communication with citizens and integration between food safety administrations and veterinary health;
- the need for more training activities focussing on technical and professional, process and system objectives, thereby developing in particular health manage-

ment and official audit methods and technique skills.

Lastly, as a matter of significant importance for the operation and coordination between the different levels of the competent authorities, a numerical inadequacy of the units of staff, particularly on a Regional level, dedicated to Veterinary and general Food Hygiene have been constantly observed.

As part of the Regional assessment system for the monitoring of the essential levels of care, veterinary and food-related aspects are measured using the following two tools:

- the essential level of care grid, with the 2009 Health Treaty of 3 December 2009;
- the assessment of the Regional Authorities

obligations towards the State, included in the “obligation certification” system.

The standardisation of evaluation and their reiteration over the years has allowed an analytical and comparable interpretation of each regional health system concerning food safety and veterinary public health.

It should in any case be pointed out that the elements evaluated can only be used as an indicator for situations that need to be explored and investigated also on the basis of a broader set of elements. Indeed, the indicators chosen do not cover the full spectrum of the lines of activity for official monitoring, rather they provide rough guidelines for the level of efficiency and efficacy achieved by each regional health system.