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The CIHEAM Watch Letter

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Analysis

Emerging diseases and zoonoses in the Mediterranean Region

Emerging diseases are frequently zoonotic for the simple reason that other infections presenting a danger to man are very closely monitored. These diseases have a major impact on the sectoral economy and on public health. Given their causes and their effects, zoonoses also have implications for other areas of critical concern to society, such as sustainable agriculture, food and the environment. These sudden epizootic outbreaks are not becoming more frequent but the nature of them has changed: infectious episodes are affecting more and more species and there is an ever greater risk that the barrier between animal and man may be breached. This of course explains the increased attention given to them by the media.

The facts

The increasing incidence of zoonoses in Europe and around the Mediterranean is due mainly to poor veterinary hygiene.

Three particular types of zoonoses affecting the Mediterranean Basin should be mentioned:

- Avian influenza, which almost certainly presents an enormous risk to all countries. The disease receives considerable coverage in this edition of the Watch Letter, which features an item on the difficult and worrying situation in Egypt.
- Salmonella infections (or salmonellosis), which are characterised by high fever with diarrhoea, vomiting and abdominal pains. For the most part contamination is by consumption of eggs or pork meat from animals that are themselves contaminated and the strong prevalence of the infection in European countries testifies to the inadequacy of procedures to ensure veterinary hygiene and manage agrifood chains.
- West Nile fever, which has been recognised for about ten years as the cause of acute infections of the central nervous system in the Mediterranean Region and southern Europe. It has given rise most notably to epidemics of meningoencephalitis, which is sometimes fatal to man, and to epizootics among horses. Four cases of the human strain were recorded in Argentina in 2007.

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In 2004 European health authorities recorded 183,961 cases of infection from *Campylobacter* bacteria. These bacteria, which are also present in the Mediterranean Basin, are a major cause of diarrhoeal illness in humans. It is thought that contamination is mainly caused by consumption of inadequately cooked poultry or contaminated milk. The World Health Organization (WHO) now believe that *Campylobacter* represents the most widespread bacterial source of gastroenteritis in the world. It is also important to note that nearly 400,000 Europeans suffered from a zoonosis in 2004, the vast majority from bacterial infections (salmonella and campylobacter).

CIHEAM

Founded in 1962, CIHEAM is an intergovernmental organisation comprising thirteen member countries from the Mediterranean Basin.

CIHEAM is made up of a General Secretariat (Paris) and four Mediterranean Agronomic Institutes (Bari, Chania, Montpellier and Zaragoza)

In pursuing its three central missions (education, research and cooperation) CIHEAM has established itself as a reference in its fields of activity: Mediterranean agriculture, food and rural development.

At present, Mr Abdelaziz Mougou is President of CIHEAM and Mr Bertrand Hervieu is Secretary General.

Some thoughts on this problem

This development is of serious concern to countries in the South of the Mediterranean Basin for various reasons. In the first place animal husbandry, poultry farming as well as cattle breeding, is essential to economic life - and life itself - in the Mediterranean Region and it therefore poses a very grave threat. Moreover, the level of veterinary surveillance in the region is relatively low and southern countries are likely to be more vulnerable in the event of a pandemic. The development therefore gives cause for concern in terms of the risk it poses to human health.

The avian flu crisis has opened our eyes. It has also encouraged wider public awareness given that animal health is a matter of international public interest and must be seen from a global perspective in a world where diseases face fewer and fewer barriers (even between species). The crisis has shown that countries skimp on preventive or rapid-reaction measures at the risk of becoming hotbeds of diseases, which are likely sooner or later to spread like forest fire.

Very few southern Mediterranean countries, however, are willing and able to comply with recognised international health standards. Such compliance demands ongoing adaptation, a genuine revolution in breeding slaughtering, processing and packaging methods, together with capacity-building to ensure that these methods can be implemented and applied. It is also interesting to note that tools for monitoring and combating disease and assessing veterinary services already exist and are modelled on the Performance, Vision and Strategy (PVS) instrument developed by the Inter-American Institute for Cooperation on Agriculture (IICA). In a significant about-face, the World Bank has recognised veterinary departments that use this instrument as "international public goods".

In conclusion, it must be emphasised that the health of an animal or plant population is the result of an unstable balance between many factors that are subject to proven and significant change; climate and environment, plasticity and adaptation of pathogen populations, organisation of sectors and movement of animal and plant populations and products, agricultural and veterinary practices, and health and risk-management policies.

The succession of health crises in recent years have once more made the emergence and reemergence of animal and plant diseases a central concern of research bodies, which are therefore striving to fulfil the expectations of risk managers and society in general. How are we to organise our research facilities to deal with emerging diseases when by their nature they are unknown and unexpected and cannot be planned for? Moreover, given the growing sense of uncertainty surrounding this area, which organisation can we refer to, in light of the experience we have accumulated, for an effective and rapid reaction?

These diseases are now a priority for many research institutions and it is therefore important that an organisation like CIHEAM maintain its vigilance in this area.

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- European Commission, *The new Animal Health Strategy (2007-2013): "prevention is better than cure"*, Luxembourg Office for Official Publications, Luxembourg, September 2007.

Jacques Brossier

President of INRA Dijon
Member of CIHEAM's Scientific Advisory Committee

Avian flu

First identified in Italy at the beginning of the twentieth century, avian flu (or avian "influenza") is an animal disease.

However, in some cases listed by the World Health

Organisation the avian flu virus has been transmitted to man via the nasal secretions, faeces, feathers of infected animals or dirt they have contaminated.

Only those who have been in close, prolonged and repeated contact with infected animals are liable to be contaminated by the type A virus (H5N1).

Source:

French Ministry of Health

Avian Influenza in Egypt

The official declaration of highly pathogenic avian influenza (HPAI / H5N1) outbreaks in poultry in Egypt on 17 February 2006 and the subsequent rapid spread of the epizootic that followed, raised serious global public health concerns and had devastating effects. Drawing a considerable toll on human health, food security and the livelihoods of millions of poor rural, peri-urban and urban Egyptian households, it also affected many other stakeholders in Egypt's poultry production and related sectors.

Egypt is located along two migratory birds' flyways, with millions of migratory birds crossing annually, presenting an ever-eminent risk of introduction and reintroduction of avian influenza (AI) viruses of all subtypes. Though it is strongly speculated that migratory birds were responsible for introducing the highly pathogenic avian influenza virus H5N1 into Egypt, the current rapid and extensive spread and its persistence is related to uncontrolled human activities.

The substantial poultry production sector of Egypt is characterized by a high density poultry population. Most of the 24,854 poultry farms are located in the densely populated Nile valley and delta area in very close proximity to residential areas and to each other. They have an annual potential production capacity of around one billion broilers, and approximately seven billion table eggs (Ministry of agriculture and land reclamation data 6/6/2007). The widespread household poultry production sector, with around three hundred million birds kept annually, represents the contact point from the wild reservoir to the domestic host. It is estimated that around twenty seven percent of all Egyptian families are involved in household poultry production (*Information and Decision Support Center, May 2007*).

Living in close proximity with clinically infected or carrier birds poses a great health risk to those families in particular, and for the rest of the country, region and for the world in general. Egypt's human toll so far has been thirty eight cases including fifteen fatalities. This figure for Egypt represents 35 % of the total human cases recorded globally. In Egypt, the majority of confirmed human cases occurred in women and children and in other family members of households involved in home poultry production. The aggregate economic cost of the epizootic and its containment costs was estimated at four billion Egyptian pounds (L.E.), twenty five percent of which (977, 3 million L.E.) represent the market value of the 34,446 million culled birds (*IDSC March 2007*).

Poultry meat production in Egypt depends heavily on live bird markets (LBMs) due to marketing infrastructure insufficiencies as well as consumer and producer preferences. The total number of slaughter houses in Egypt at the start of the HPAI outbreak was 184 with a total annual potential slaughtering capacity of 187 million broilers representing around 35% of exotic broilers produced in 2005 and less than 20% of the potential annual broiler production (Osman, IDSC 2006; Hosny, FAO 2006).

The household poultry production sectors, together with LBMs, are recognized as potential reservoirs and mixing pot for different locally circulating and newly introduced AI viruses. They provide a favourable environment for AI virus mutation, for its prolonged persistence in the environment, and subsequent spread. Furthermore, bio security, basic hygiene and sanitation conditions in most poultry production units, markets and poultry shops are very poor, especially in respect of waste and by-products disposal.

The above socioeconomic and epidemiological conditions can partly explain the explosive nature and the very rapid spread of the disease during the initial phases of the HPAI outbreak and highlights the current challenges and difficulties facing Egypt in its HPAI control and eradication programme. Moreover, due to the absence of compensation strategy for the culling of detected infected or in contact birds, poultry owners in both the commercial and household production sectors are reluctant to report suspected and/or confirmed HPAI cases. The heavy handed governmental approach made poultry keepers in the household sector reluctant to vaccinate their birds, or to even admit keeping poultry when they themselves were hospitalized with clinical symptoms of human avian influenza, in fear of the government's (perceived) unjustifiable destruction of the coops and culling of their poultry. This involved all poultry breeding units existing in a wide perimeter that varied in diameter from 7 to 3 or even 1 Km, depending on the affected Governorate policy on the matter, the nature of terrain and density of the population.

The H5N1 virus in Egypt

In Egypt there have been 36 cases of the H5N1 virus infection in humans, 15 of which have been fatal. So far avian influenza has struck 21 of the country's governorates.

For more information on the problem of avian flu in Egypt, consult the following site:

<http://birdflu.sis.gov.eg/html/index.htm>

Control measures adopted by the government of Egypt (GoE) in the animal health sector during the initial phase of the outbreak were based on enforcement of a stamping out policy, quarantining, movement control, sudden closure of all LBMs and banning of household poultry production in urban and peri-urban residential areas. Vaccination was introduced three weeks after the official declaration of the outbreak (on 06/03/2006) and was limited - at the start - to valuable birds and grandparents. This was later replaced by a policy for mandatory mass vaccination.

The fact that the above mentioned regulations did not bring the epizootic under full control and may even have contributed to HPAI viruses becoming enzootic and deeply entrenched within the LBMs and household poultry production units, led to reconsideration of the control policy and strategy. The Government adopted a more practical approach and started modifying the existing regulations, to better accommodate the facts and realities of the situation. One of the examples of changed policy concerns coping with the challenge posed by LBMs. Enforcing immediate closure of all live bird markets was replaced by a phased and gradual closure of LBMs.

Closure was implemented initially in major cities and densely populated urban and peri-urban areas, and was accompanied by a programme for increasing slaughterhouse capacity and for establishing other essential marketing infrastructure planned to be completed in the 27 Governorates of Egypt by 2010. Closure of small live poultry shops was replaced by the application of new health regulations and standards, and operational specifications. Movement of live poultry within and between different Governorates was allowed on condition that the poultry originate from certified clean flocks (negative Reverse Transcriptase polymerase chain reaction-PCR test). Moreover, the GoE has started a national HPAI free of charge vaccination campaign focusing on the household poultry production sector.

Improvement in implementation of control measures, specifically vaccination and improved bio security, have reduced the incidence of reported outbreaks in the commercial poultry production sector. Since the beginning of 2007 to date, only 15 cases have been confirmed in the commercial poultry production sector as compared to 845 cases in 2006. The approach dealing with the household poultry production was not as successful. There was no reduction in the number of reported infected birds. Comparing the number of cases occurring in the household poultry production sector over the same period showed little difference, being 223 cases for 2006 against 226 cases in 2007.

The main objective of the GoE is to protect human's health and welfare and limit human infections by controlling the disease at its primary assessable source i.e. domesticated poultry. The current overall HPAI control and eradication plan is based on the following main components: Capacity building in the human and veterinary health sectors; information, education and increased public awareness; restructuring of the poultry industry; applying the highest bio security standards to all production sites and marketing channels; a systematic vaccination campaign; creating controlled marketing channels; early detection and rapid response through continuous virus surveillance programmes, market monitoring mechanisms, and strict bird movement control.

It is hoped that implementation of the different components of this comprehensive control plan would collectively reduce the incidence of the disease and bring it closer to the ultimate goal of eradication.

Total HPAI eradication from Egypt, specifically from the household sector, might be difficult to achieve under the current epidemiological and socioeconomic conditions. Poor households will continue to raise poultry almost indefinitely, as an important source of animal protein and income, regardless of any attempted imposition of rules or regulations. A realistic long term objective would be to reach a stage at which no more human cases are occurring and where the household sector no longer poses a threat to humans and to other poultry whether in the same sector or in the industrial and commercial sectors. All control measures should be conceived, structured and implemented in a manner that causes the least economic and negative social impact on the livelihoods of poor households, and that minimizes negative impact on human and animal health and on the environment.

Dr. Farid Hosny

Member of the Royal College of Veterinary Surgeons
Technical Director, International Free Trade Company, Egypt

Interview

Dr Bernard Vallat, Director General of the World Organisation for Animal Health (OIE)

As the trend towards globalised trade intensifies, emerging and reemerging diseases gain more and more ground, crossing seas, oceans and continents without difficulty.

Q- What is the current position regarding emerging and reemerging diseases worldwide?

There is a distinct correlation between the rise in outbreaks of emerging diseases, which are either new or reemerging (reappearing having been more or less forgotten), and globalisation. This makes all the more sense given that there has never before been such movement of goods and people around the world. Microbes and pathogens are able to follow these movements, travelling to every country in the world and finding new opportunities for genetic mixing, which can make them increasingly pathogenic to animals and humans. In this situation it is therefore necessary to prepare for the emergence of new risks that pose a threat to rich and poor countries alike, including those located around the Mediterranean.

First of all it will be necessary to pass legislation designed to afford countries better protection, to strengthen the role of public services responsible for the prevention and control of these diseases, and to prepare emergency plans. These plans will be put into effect under the supervision of the public services and will of course involve civil society. These preparations must take account of globalisation, which admittedly has some positive features but also presents disadvantages, such as those I have just mentioned.

Q- What efforts are being made worldwide to combat these diseases?

The northern countries thought that by protecting their frontiers and monitoring everything that came in, they could be completely immune to the risks of emerging and reemerging diseases. This was an illusion. We now know that measures of this kind are not enough to guard against these diseases. We are also aware that helping southern countries control and eradicate them is the best way of dealing with them. In any event it is the most economic and effective form of protection for countries in the North. As for countries in the South, they do not often have the financial resources needed for effective protection and the effort required to implement appropriate measures is not therefore regarded as a national priority. They must therefore seize opportunities offered to them by the northern countries to implement new programmes. To that end there must be a political will on the part of all countries, for if just one country fails to appreciate the situation it will inevitably put the entire planet in danger.

Given the need for a common political resolve on this matter, international organisations have an important role to play: educating member countries and encouraging them to take action in this area by providing them with all necessary scientific and technical resources. This is what we are doing at the OIE within our own area of competence: seeking to persuade countries in the North to invest in those in the South and trying to encourage those in the South to set up more disease surveillance, prevention and control programmes.

Q- In recent years initiatives have been undertaken to limit the effects of avian influenza. How successful do you think they have been?

Avian influenza is an excellent illustration of the negative aspects of globalisation. Globalisation explains how one of its viral subtypes (H5N1), which incidentally has long been known to exist, has now succeeded in striking three continents (Asia, Africa and Europe): it has spread via commercial channels as well as those used by wild, notably migratory birds.

OIE

The OIE is the intergovernmental organisation responsible for improving animal health worldwide.

The need to fight animal diseases at global level led to the creation of the Office International des Epizooties through the international Agreement signed on January 25th 1924.

In May 2003 the Office became the World Organisation for Animal Health but kept its historical acronym OIE.

At present, the OIE has a total of 169 Member Countries and Territories.

The OIE maintains permanent relations with 35 other international and regional organisations and has Regional and sub-regional Offices on every continent.

www.oie.int

The international community has reacted well. The international conferences organised to address this issue have brought all countries together to develop common strategies and raise funds in the North to help countries in the South. Even if the whole process has lasted rather a long time, the results have nevertheless been excellent.

Unfortunately three countries have still not succeeded in ridding themselves of the disease, even with the aid they have received. They are Indonesia, Nigeria and Egypt. In these three countries we are seeing periods of remission, followed by new outbreaks. This is due, notably in Indonesia and Nigeria, to the high level of decentralisation, which prevents the state and the central authority from imposing a single strategy on the whole of the country. Measures taken by the authorities at regional level are therefore different from those recommended. This gives the H5N1 virus a distinct advantage: if vaccination programmes are not sufficiently thorough, the virus will continue to flourish.

The situation is different in Egypt, where it can normally be assumed that instructions issued by the national authorities will be respected by the local authorities. But two factors combine to propagate the disease in this country. First of all it must be borne in mind that most members of the population keep poultry, including those in urban areas. Virtually all households are concerned, and it is increasingly difficult for the veterinary services to reach every one of them. The other factor seems to be the lack of interministerial coordination, particularly between the Ministries of Health and Agriculture. This needs to be remedied so that the government can speak with one voice when taking action in the field.

Q- How do you think the OIE and other international organisations might help Egypt cope with avian flu?

The OIE has advised Egypt on all the technical measures that need to be applied. If all our recommendations were applied across the whole country, we believe that the disease could be overcome. The problem is therefore one of political will. The Egyptian government should therefore equip itself with the resources needed to implement the technical recommendations throughout the country.

Q- What are the main problems facing Mediterranean countries in the field of animal health?

The Mediterranean lies between Europe and Africa. As a result of climate change some diseases, formerly confined to Africa and carried by such vectors as insects, have now reached the Mediterranean Region and have even become firmly established there. This trend is illustrated by the case of blue tongue disease among sheep. This disease first crossed the Sahara to Tunisia, and its vector (probably a midge helped by the sirocco) then carried it to Sardinia, from where it colonised part of Europe. Another example worth citing here is that of the chikungunya virus, which has just been reported in Italy among other places.

All of this suggests that the Mediterranean Region will be increasingly sensitive to new emerging diseases from Africa and must be prepared to confront them. This will not be difficult in so far that we know how to go about dealing with them. But again, the Mediterranean countries need a common political resolve if they are to draw up timely prevention and emergency plans in the event of crises and to strengthen their veterinary services to forestall such crises.

Q- Are you satisfied that the collaboration between the OIE and the Mediterranean countries is advancing the cause of animal health in the Mediterranean Region?

Absolutely. We could however fault some Mediterranean countries for not having grasped the seriousness of the new risks and being rather backward in facing up to them and we therefore have quite a lot of work to do to convince them that these risks are genuine.

Interview by Hassane Tlili

Journalist specialising
in agricultural and environmental issues.

Facts about zoonoses

Certain terms have featured prominently in the news in recent years and so we all familiar with them: prions (mad-cow disease), anthrax bacillus (bioterrorism), influenza virus (avian flu), West Nile virus, E. coli O157 (the killer-hamburger bacterium). These pathogens have at least one thing in common: they are all potentially responsible for zoonoses and can be described as emerging or reemerging. Because these terms are not always used correctly, it is essential to begin by giving a definition that would be acceptable to specialists.

What are zoonoses?

Zoonoses are infections (bacteria, viruses, prions) and infestations (protozoan/metazoan parasites) that are naturally transmitted from vertebrate animals to man and vice versa (WHO 1959; from Greek *zōon*, living being and *nosos*, disease). It is incorrect to use the term "zoonosis", as some non-specialist publications do, to mean "animal disease" in general. Zoonoses are diseases that are passed between animals and man. They may be transmitted directly or indirectly, notably via foodstuffs derived from animals that are known to be hosts of the pathogens in question. Some serious human infections are of animal origin - AIDS for example comes from monkeys – but are not described as zoonoses because the pathogen responsible for the human disease has evolved in such a way that it has become specific to man. Recent health crises (BSE, foot and mouth disease, swine fever, SARS, avian flu) have set the discussion within a global context, in which animal health, public veterinary health, food and the environment are clearly interconnected.

When do they emerge or reemerge?

A zoonosis is said to be emerging when it appears in a population where it has never previously been identified. It is said to be reemerging if its incidence increases to a significant degree in a population where it has been known but contained. In concrete terms, where the disease is emerging, the target population is considered to be at risk, is often geographically confined and suffers effects that are technically measurable. The problem cannot therefore be disassociated from the geographical context (local transmission from wild animal reservoirs, or indeed global transmission through exported foodstuffs of animal origin) or from the sociological or medical one.

Can a pathogen become zoonotic?

A great many pathogens have the potential to become zoonotic and the associated risk is further increased by the great genetic plasticity of microorganisms. For example, some viruses from the same family but with different hosts, such as flu viruses, are capable of swapping genes when they infect the same cells and this process of genetic reassortment may produce hypervirulent chimeric viruses that can infect new hosts. This explains the risk to public health posed by the spread of avian influenza in China: if the species barrier were to be crossed there might be a new pandemic, like that of 1918-1920, with catastrophic consequences for humanity. Given that microorganisms have greater adaptive flexibility and evolve more rapidly than their hosts, particularly vertebrates, it is reasonable to ask whether the experimental striving for long-term modification of the hosts' receptiveness, through genetic selection for example, is not doomed to failure.

Dossier prepared by **Jacques Brossier**

Source: INRA, Dossier on zoonoses, June 2005, page 10.

Links

World Health Organization – Mediterranean Zoonoses Control Programme

<http://www.mzcp-zoonoses.gr/>

FluTrop

<http://www.avian-influenza.cirad.fr/>

European Commission – Animal health

http://ec-europa.eu/food/animal/index_en.htm

Close-up on the ERANET

“Coordination of Agricultural Research in the Mediterranean (ARIMNet)”

Strategic aim and scientific and technological objectives

ARIMNet has as its strategic objective to reinforce the scientific coordination of programmes in agricultural research and secondly the scientific cooperation between countries of the Mediterranean area, including EU and non-EU member states, in order to maximise its support to sustainable development, notably, management of natural resources and mitigation of threats resulting from global change.

To reach this overall goal, ARIMNet will:

- Enhance synergies between research programmes in view of avoiding duplication of efforts and orienting spared resources to unaddressed issues;
- Raise cooperation between the organisations in order to carry out ambitious research projects that cannot be undertaken at an individual level;
- Outreach the benefit of the network beyond the consortium to create spill-over effects impacting all concerned research organisations, and out of the Mediterranean area, export the concept to other relevant areas, the Black Sea area or other neighbourhood areas, for instance.

The concept of ARIMNet is to foster the coordination of the network participants' programmes through a need-driven approach based on four steps each one contributing on its own to the reinforcement of the cooperation, and at the same time providing the basis for the design of the next stages:

- Information exchange and mapping to improve mutual acquaintance and share of best practices
- Strategic orientation of research programmes to eliminate overlapping and open novel issues
- Joint activities to consolidate and harmonise partnership outline common vision and agenda
- Calls for proposals to expand the structuring impact of the network.

Expected Achievements of the project

ARIMNet will result in three main achievements:

- Better coordination between partners' agricultural research programmes through: monitoring of participating countries' agricultural research programmes; identification of duplications, complementarities, gaps, and synergies between partners' agricultural research programmes; redesign of partners' agricultural research programmes in order to eliminate overlapping and address uncovered topics
- In-depth and durable cooperation between the ARIMNet partners thanks to: transnational joint activities; institutional arrangement for facilitating the implementation of joint research projects; design and development of common methodologies for programme management
- Long term contribution to structuring the European Research Area by: elaboration of common vision on agricultural research in the Mediterranean area; proposal for a strategic outline of agricultural research in the Mediterranean area; take-up activities for bringing the experience, methods and tools gained by ARIMNet into use by other geographical areas.

Consortium

Institut National de la Recherche Agronomique (France), Centre de coopération internationale en recherche agronomique (France), Ministero delle Politiche Agricole Alimentari e Forestali (Italy), Institut National de la Recherche Agronomique d'Algérie (Algeria), Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (Spain), General Directorate of Agricultural Research, Ministry of Agriculture and Rural Affairs (Turkey), Agricultural Research Centre (Egypt), Fundação para a Ciência e a Tecnologia (Portugal), Hassan II Institute of Agronomy and Veterinary Medicine (Morocco), National Agricultural Research Foundation (Greece), Institution of Agricultural Research and Higher Education (Tunisia), Agricultural Research Institute (Cyprus), and Ministry of Agriculture and Rural Development (Israel).

Patent

Both a Greek and a European patent were issued to P. Kefalas/MAICh for the elaboration of a novel method on the extraction of the olive tree leaves in view of obtaining a phenolic extract rich in oleuropein and/ or its subsequent purification leading to a pure product (95-97%) at important yields.

Greek Patent 1005464 (2007) and European Patent 1795201 (2007).

News in Brief

Increase in Tunisian date exports

The volume of Tunisia's date exports rose from 21,000 tonnes in 1996/1997 to 42,700 tonnes in 2005/2006. Production in 2006/2007 was around 131,000 tonnes compared with no more than 73,600 tonnes in 1996/1997. This trend is due to a number of factors, including the authorities' strategy of rationalising exploitation of water resources in the Tunisian oases, which ensured that 83% of oasis land was furnished with adequate and economical irrigation techniques by 2006. In order to give a new boost to the date sector, the state has also had to expand facilities for storing harvests and introduce tax and other financial incentives to encourage producers to invest in quality. As a result of these measures dates are now Tunisia's third organic export product after olive oil and citrus fruit. But several challenges still have to be overcome if the position of this strategic product among Tunisia's agricultural exports is to be consolidated. They include diversifying exportable varieties (to supplement the *Deglet Nour*), overcoming difficulties related to arid climate, depletion of water resources and salinity of aquifers, and finding new markets outside Europe.

Development of organic agriculture in France

"*Agriculture biologique: horizon 2012*" is the name of the action plan introduced by the French authorities to promote and stimulate development of organic farming in Metropolitan France. Mr Michel Barnier, Minister of Agriculture and fisheries, announced the plan on 12 September 2007, explaining that the objective was to satisfy French consumer demand by 2012. France was a pioneer in the field of organic agriculture in the eighties but today ranks only 13th among European producers. Half of all organic products consumed in France are currently imported and only 2% of French farmland is devoted to organic agriculture. As the Minister emphasised, "we must recognise that domestic demand is increasing while supply is stagnating". It is agreed that the proposed action plan will involve simultaneous research, development and training programmes and that the organisation tools of sectors and consumers should also play a part. To that end INRA will be mobilised, together with all the French technical Institutes, including the *association de coordination technique agricole* (ACTA) and the *Fédération nationale d'agriculture biologique* (FNAB).

Bilateral cooperation between Italy and Egypt

Mr Paolo De Castro, Italian Minister of Agriculture, Food and Forestry, and Ms Emma Bonino, Minister for International Trade and European Affairs, paid an official visit to Cairo on 2 and 3 September 2007 to further bilateral cooperation between Italy and Egypt and examine ways of enhancing economic links between the two countries. During the visit, they signed an agreement with the Egyptian authorities to develop cooperation between the agricultural fairs of Parma, Bari (Fiera del Levante) and Cairo. Mr De Castro stressed the importance of the Egyptian market for Italian agricultural and food exports. He also met with his Egyptian counterpart, Mr Amin Abaza, to sign two partnership agreements: one on global cooperation in the field of agrifood and another on phytosanitary safety. Ms Bonino pointed out that trade between Italy and Egypt had risen by 40% in 2006 to nearly €3.7 billion, highlighting the growing volume of Egyptian exports in the Italian market (+71% in 2006 with a total value of €2.2 billion).

Lebanon: FAO launches agricultural recovery initiative

In September 2007, with the aid of the UNDP-administered Lebanese Recovery Fund, the FAO launched an initiative to help small-scale farmers in South Lebanon resume their activity by providing them with technical support and funding (US\$3.3 million). Farming had become impossible following the summer 2006 conflict and the bombing of the region, in the course of which millions of bombs had been scattered over mainly agricultural fields. According to the Mine Action coordination centre in South Lebanon only 10% of these bombs have so far been cleared, which means that agricultural work can only be partly resumed in certain districts. The main aim of the programme is to aid fruit and vegetable growers and help stock breeders build up their herds. It should be noted that the FAO estimates that the agricultural sector in southern Lebanon has suffered loss and damage to the tune of US\$280 million since the summer 2006 conflict.

MAI Bari

E-Learning

Since 2003, the MAI of Bari has been running a distance-learning programme, from which 129 students from 14 different Mediterranean countries have so far benefited.

Run by a qualified technical staff, the project employs E-learning methodology and collaborative teaching methods.

A series of online courses has been steadily built up, four of which are now given in English: "On-demand pressurized Irrigation Systems Design and Analysis", "Severe Virus and Virus-Like Diseases: a potential threat to the Mediterranean Citrus Industry", "Agricultural policies: instructions, tools and evaluation", and "Marketing of organic agro-food Products".

A list of courses is available from the MAI.B E-Learning platform at the following address:

<http://el.iamb.it>

News in Brief

Algeria to import dairy cows

The dairy sector in Algeria is currently experiencing a serious crisis. The Trade Minister, Mr El-Hachemi Djaaboub, has accordingly announced that the country will be importing 300,000 dairy cows to deal with the problems. The import of powdered milk would thus be replaced with that of cows, each one capable of producing 4,000 litres of milk per year. As the Algerian daily El Moudjahid pointed out in its edition of 5 October 2007, Algeria (whose annual milk requirements are estimated at 3.5 billion litres) imports 100,000 tonnes of powdered milk on average every year. The bill for these imports has virtually doubled in recent years with the rising cost of milk in the international market, amounting to nearly \$1.3 billion in 2006. This steep rise partly explains why the authorities have now decided to take the step of importing dairy cows on a massive scale.

European Commission bans bluefin tuna fishing in Mediterranean

On 19 September 2007, Brussels decided to suspend bluefin tuna fishing in the Mediterranean and the East Atlantic, having determined that the EU quota for 2007 (16,780 tonnes) had been exhausted. Italy and France closed their fisheries in the summer of 2007 and so the Mediterranean countries affected by the decision are Cyprus, Greece, Portugal, Malta and Spain. The European Commission is trying to work out a strategic plan for 2008 in order to avoid the two major problems encountered in 2007: overfishing of stocks already threatened with extinction and ensuring equity between the member countries concerned. The problem of transparency still has to be dealt with, given that many bluefin tuna fishers in the Mediterranean do not declare their catches, thereby distorting the statistics and creating conditions for further depletion of stocks in the Basin. It should be borne in mind that France, Spain and Italy are Europe's principal bluefin tuna fishers, with a total catch of 15,400 tonnes (92% of the EU quota).

Higher cereal bill for Morocco

Morocco has just received five million quintals of soft wheat, one million quintals of durum wheat and 1.4 million quintals of barley as part of a vast cereal import programme intended to cover its food requirements: 60.5 million tonnes according to estimates made by the ONICL (national office for cereals and pulses) the previous June. Because the country was hit by drought during the growing season of 2006-2007, this year's cereal harvest was only 2.5 million tonnes compared with 8.5 million quintals at other times. The Moroccan authorities have therefore decided to stagger cereal imports over an average period of 10 months. It is estimated that at least 52 million quintals will be imported: 30 million quintals of soft wheat, 15 million quintals of maize and 7 million quintals of durum wheat. Given that Morocco, like other southern Mediterranean countries, is tending to rely on the international market to cover a large proportion of its food needs, the recent upsurge in world cereal prices (particularly wheat prices) is increasing its imports bill. A quintal of French soft wheat costs around 370 Moroccan Dirhams at out-of-quota tariffs compared with just 350 Dirhams under the terms of the Association Agreement with the European Union. The imported wheat bill for the past three months alone is reckoned to be up by about 66%.

Tunisia: fight against bluetongue intensifies

Since the beginning of 2007, more than 5000 cases of bluetongue disease have been recorded in Tunisia. The Ministry of Agriculture has accordingly asked producers, professional organisations and its own veterinary services to redouble their efforts, exercise constant vigilance, and take all necessary measures to paralyse the action of its principal vector in the Mediterranean zone: the biting midge "Culicoides dewulfi". This viral disease, which poses no threat to man but can be contracted by all ruminant species, was recognised in Tunisia in 1999. In the past it had mainly affected sub-Saharan stock and outbreaks in Mediterranean countries had been rare. Since the nineties however it has become established in most southern Mediterranean countries, probably as a result of global climate change. The upshot is that the biting midge is now well adapted to the climate of southern Europe and since 2006 there have been outbreaks in several European countries, including France, Belgium and Germany and, more recently, Great Britain.

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Publications

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Events

11-15 November 2007 - Alep (Syria)

Seminar "Sustainable Management of Wastewater for Agricultural Production in Water-Scarce Countries", organised by ICARDA (International Center for Agricultural Research in the Dry Areas) and the International Water Management Institute ([information](#))

13-17 November 2007 - Alexandria (Egypt)

8th International Medcoast Conference on the conservation and integrated management of the Mediterranean Coastal Environment, organised by the Egyptian Authorities and the Arab Foundation for Marine Environment ([information](#))

15-17 November 2007 - Ponte de Lima (Portugal)

6th International Seminar on "Changes in sheep and goat farming systems at the beginning of the 21st Century", organised by the Portuguese Ministry of Agriculture, Rural Development and Fisheries in collaboration with the FAO and CIHEAM ([information](#))

22-26 November 2007 - Hammamet (Tunisia)

MELIA Project (Mediterranean Dialogue on Integrated Water Management), First workshop on "Water culture and water conflict in the Mediterranean Area" ([information](#))

6-9 December 2007 - Antalya (Turkey)

7th International Horticulture, Agriculture, Floriculture and Technologies Fair (GrowTech Eurasia 2007), organised by the Turkish authorities and agricultural professionals ([information](#))

6-9 December 2007 - Agadir (Morocco)

SIFEL: 5th International Exhibition of fruit and vegetables ([information](#))

11 December 2007 - Paris (France)

International colloquium on agriculture and food, organised by the Institut Français de la Nutrition ([information](#))

13-14 December 2007 - Rabat (Morocco)

Seminar on Rural development and poverty reduction, organised by the Moroccan Association of agricultural economics (AMAECO) and the Moroccan Ministry of Agriculture ([information](#))

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Recent publications

CIHEAM Analytical Notes

- *Current events in the Mediterranean since April 2007*, CIHEAM General Secretariat, No 24, September 2007
- *International trade negotiations and economic partnership agreements*, Michel Petit, No 25, October 2007

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- *International Investments and the development of agro-industries in the Mediterranean*, Fabrice Hatem, No 31, August 2007
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- *Pressure on Mediterranean landscapes*, Anne-Marie Jouve et al, No 33, September 2007
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- Summary of edition 02/2007 of the review, September 2007
- Summary of edition 03/2007 of the review, November 2007

CIHEAM Watch Letter

- Watch Letter No 2, focussing on quality and safety of Mediterranean food products, Summer 2007

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