

N° 23

December 2012

Watch Letter



Cereal Issues in the Mediterranean

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Bread Diversity in the Mediterranean

Monica Elía, *Innopan, Spain*

Cereals Price Volatility and Food Security in the Mediterranean Area

David Hallam and Liliana Balbi, *FAO*

The politics of Bread in Egypt

Habiba Hassan-Wassef, *Consultant, Egypt*

Grains Market Hedging and Financial Speculation: Challenges and Risks for the MENA Region

Bruce Tozer, *Consultant, De Novo Agricultura Pty, Australia*

Food Security and the Grain Chain in Arab Countries

Michelle Battat, Julian Lampietti and Sean Michaels, *World Bank*

Cereal Powers of the Black Sea and the Mediterranean Basin

Natalija Riabko, *FranceAgriMer, France*

Les relations céréalières entre le Maroc et les pays de l'Amérique du Nord

Abdellah Aït El Cadi, *ONICL, Maroc*

Cereal Production and Agronomic Innovation in Turkey

Namuk Ergun, Sinan Aydoğın and Ali Osman Sari,
Ministry of Food Agriculture and Livestock, Turkey

France, Cereals and the Mediterranean Markets

Interview of Didier Nedelec, *Union InVivo, France*

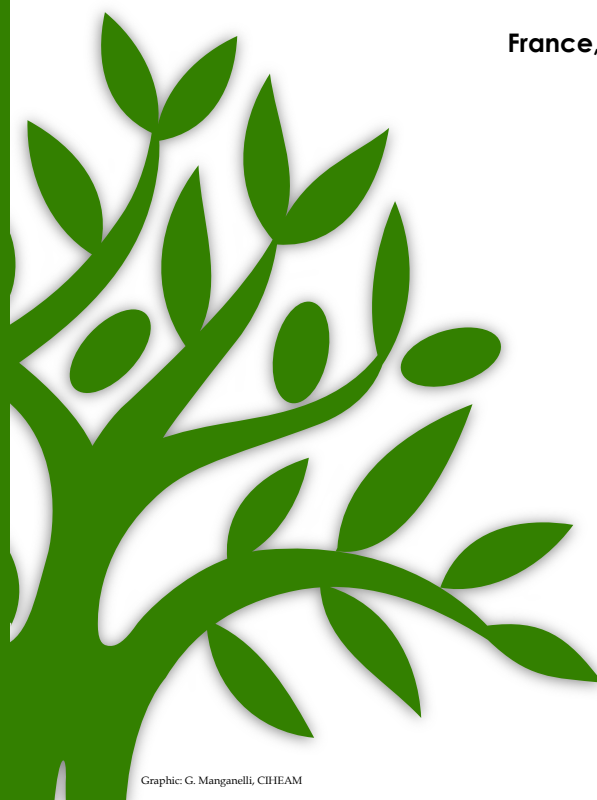
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ISSN 2114-3129



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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 main complementary missions (post-graduate specialised education, networked research and facilitation of the regional debate), CIHEAM has established itself as an authority in its fields of activity: Mediterranean agriculture, food and rural development. At present, Mr Adel El-Beltagy is CIHEAM's President and Mr Francisco Mombiela is its Secretary General.

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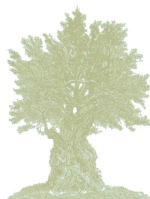
Editor in Chief: Sébastien Abis

Email : abis@ciheam.org - Tel : +33 (0)1 53 23 91 00

Collaborators on this issue:

Pierre Blanc, Mathieu Brun, Gianluca Manganelli, Ana Perez.

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Bread Diversity in the Mediterranean

Monica Elía

Director of Innopan, Spanish Centre of Baking Technology

The Mediterranean region offers a range of unique environmental conditions, such as climate, biological diversity and natural resources along the shores of three continents: Europe, Africa and Asia. This wealth of diversity is reflected in agricultural and food habits. The people are of different ethnic and religious backgrounds but their lifestyle and dietary habits unite them. In fact, the Mediterranean Diet has been awarded World Heritage status as a model for healthy eating (Unesco, 2010). Bread, wine and oil, known as the Mediterranean Triad of Food since Greco-Roman times, play an essential role in the Mediterranean Diet and these three elements were often common to Mediterranean civilizations not only from a food but also from an anthropological and cultural point of view (Levavitzer, 2008). Specifically bread meant more than just food to nourish the body. It had a variety of spiritual and social values that are still present in many current proverbs and idiomatic expressions.

Domestication of wheat is thought to have occurred in the Fertile Crescent around 10,000 BC and Neolithic excavations have uncovered remains of bread. Historians report Egypt as the place where yeast was discovered and, with it, the baking process. However, Greece was the place where baking became a recognised occupation. The word "cereal" comes from Roman goddess "Ceres", whose equivalent in Greek culture was "Demeter". Egyptians had a goddess of bread, "Isis", who brought wheat grains from Lebanon to the shores of the river Nile (Gil-Hernandez, Serra-Majem, 2010). Therefore, we can say that bread been a significant part of Mediterranean cultures for millennia.

Modern bread wheat, *Triticum aestivum*, has evolved from the combination of the genomes of three ancestral grain species. These three species are spelt (*Triticum spelta*), emmer (*Triticum diococcum*) and einkorn (*Triticum monococcum*), currently referred as "ancient grains". Evolution and selection of bread wheat has been different in each country and therefore the baking process has also evolved separately in each region and country.

Nowadays, there is a great diversity in the breads of the Mediterranean area. To study this diversity it is important to consider the term "bread" in a broad sense, which can sometimes involve a wide range of bakery products. On the other hand, occasionally there is a term which, even if it applies specifically to one type of bread, can also cover all types (Balfet, 1975). Despite common features of bread types, there are many specific differences in characteristics depending on the country and the culture.

Bread is basically prepared by cooking a dough made of flour and water. In many cases salt is used in dough preparation as an optional component that adds flavor and gives it strength. Yeast is frequently used to make the bread 'rise' through expansion of air bubbles in the dough during cooking, but there are still Mediterranean countries where unleavened bread is preferred. Additional ingredients can be used in bread recipes, e.g. fat, leavening agents and others such as seeds, sugar, fruit, and vegetables.

Bread is not a sophisticated product, however, and Mediterranean recipes usually are very old. Nowadays consumers are increasingly demanding not only in aspects of bread quality but also in taste and flavour attributes and bakers have developed new products in response. Therefore, in Mediterranean European bakeries today we can find hundreds of variations like: crusty, hard, soft, topped with sesame seeds, filled with tiny raisins, and stuffed with tangy olives. In addition, bread often plays an important symbolic role during religious holidays throughout the year. Even in the same country different regions may have their own versions of traditional holiday bread. Therefore, in our review of Mediterranean bread diversity we must focus on common features to get an overall assessment of them.

Traditionally wheat and bread have always been associated with Mediterranean culture while rice was the distinctive cereal of the East, and maize was characteristic of Mesoamerica and South America. This distinction has been determined by climatic and soil characteristics of each area, influencing the adaptation of the crop to its local environment and in turn how to adapt it to the local baking process. Other, minor cereals are used in some Mediterranean countries. Flour from durum wheat (*Triticum durum*), known as semolina, is still used, mainly in North Africa, though the dough needs much more kneading compared to bread wheat flour based breads. We found, for example, "Pain Tunisien" and "Algerian bread". Additionally, among the poor or in periods of high demand for the main cereals, flours from other cereals or pseudo cereals such as quinoa, buckwheat or amaranth, have been used to make bread or in blends with the main cereal flour. The use of alternative raw materials can, however, have positive benefits because of their chemical composition or nutritional properties (acorn, pea, chickpea, teff, millet, oat etc) and developments in baking technology have accommodated such diverse ingredients.

Many traditional breads usually are white but this was not always the case. Ancient grinding techniques did not separate the bran from the wheat grain but this changed with the introduction of the roller or cylinder mill, in which the kernel was crushed instead of ground. Dark breads currently available have become more popular for nutritional and sensory reasons. Health benefits of consuming grain fibre and the outer layers of the grains have been recognised by dieticians and bread is the perfect food to incorporate them into people's diets.

Although flour composition is the main characteristic of a piece of bread, there are some other factors which complete product classification such as fermentation, baking, shape or thickness. In fact, fermentation is the main distinguishing feature between Mediterranean European breads and those from other Mediterranean countries. Though nowadays leavened and unleavened bread coexist due to new trends in Europe, unleavened breads are still a distinctive feature of North African and Middle Eastern Mediterranean countries. Indeed the worldwide-known term "pita" is directly associated with them.

"Pita" refers to a round thin non-crusty flat bread that puffs up with air during baking, and after removal from the oven, the deflated bread has a pocket, which is often filled with various ingredients. We find different "pita bread" types such as 'Khubz', 'Kesra', 'Kasrah', 'Lavash' or 'Yufka' in Morocco, Algeria, Libya, Turkey, Lebanon and Syria, respectively. All of them are consumed with spreads and fillings and they are used to hold and eat other foods, either sweet or salty.

'Pita bread' is ubiquitous in Greece being found in sandwiches such as 'pita-souvlaki' and 'pita-gyros' and accompanying traditional dishes like 'Tzatziki'. But Greece's bread heritage is a fusion between Eastern and Western Mediterranean countries because of its geographical location. Hence, other popular bread shapes include 'kouloura' (round), 'plexouda' (braided) or 'franzola' (Italian style long bread).

The Italian 'pizza', a flour-based product with different toppings, usually mozzarella cheese, basil and tomatoes, is linked to flat breads. Many of Italy's leavened breads are very well known. Foremost amongst them is the 'ciabatta', a highly hydrated wheat dough baked with olive oil, which is known for its spongy crumb and natural flavour. Then there are; 'pugliese', with a long fermentation process; 'focaccia' whose thinness is due to the minimal amount of leavening agents used in the basic recipe; and other breads and variations on them which incorporate specific ingredients like 'garlic bread', 'mascarpone and fruit bread', and 'tomato herb bread'.

In Spain the many varied breads probably reflect the different life styles and geographical conditions around the country. Unleavened breads are not very frequent, apart from odd introductions to local gastronomy due to cultural diversity. Provinces in the Mediterranean coast prefer 'flama breads', characterized by spongy crumbs and golden crusts such as 'hogaza', 'pataqueta', 'pistola' and 'llonguet'. Inner regions of the country offer additionally a very singular type of bread called 'candeal bread'. It is a unique bread in which two cylinders are used in the final step of kneading, leading to a very dense, compact, white, thin and bright crumb.

Finally, Mediterranean European bread is deeply influenced by the legacy of French bread culture. The well-known French loaves of bread, brioche and other types of bakery leavened products have spread all around the Mediterranean countries. Traditional French bread can be defined as bread made of wheat flour, yeast, salt and water, with little variation in its formulation but a wide variety of shapes with specific names such as 'batard', 'boule', 'champignon' and others. Specifically, the most characteristic bread is the 'baguette', long and thin, with a soft crumb and slightly crisp crust; a name that has crossed borders all around Mediterranean countries.

This differentiation on bread diversity is increasing through the use of quality assurance schemes and marks. Indeed, geographical indications such as Protected Geographical Indications (P.G.I.) and Protected Designation of Origin (P.D.O.) enhance not only the quality but also the identity of some types of bread. Such schemes also help to re-

establish some breads that have been neglected. We can find P.G.I. Pane di Matera (Italy), P.G.I. Biscote di Creta (Creta) and P.G.I. Pan de Cea (Spain) well liked in the entire European territory.

In general, the Mediterranean bread map is defined by two well differentiated types of bread: flat breads in North African countries and "French breads" in Eastern European countries. Both meet in Middle Eastern and Western European countries where they coexist, perfectly merged in the gastronomy. Both types have got their own particularities as a result of the tradition, the folklore and the history of each place. There currently is much concern in the food industry about developing new products to meet consumer's expectations in terms of sensory and nutritional quality. Under this scenario, recovering traditional products combining cultural and technological facets help achieve customer satisfaction. Knowledge of our own bread diversity gives us the potential to increase our culture and prosperity.

In summary, there is a terrific bread heritage in the Mediterranean area as a result of a particular amalgam of cultures. This legacy is even greater when bread is an essential part of cuisine, enriching, in consequence, Mediterranean gastronomy. This paper presents an overview of the great diversity amongst existing breads and further studies will enhance the distinguishing features within the Mediterranean area.

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Cereals Price Volatility and Food Security in the Mediterranean Area

David Hallam

Director, Trade and Markets Division, FAO

Liliana Balbi

Senior Economist, Trade and Markets Division, FAO

The 25 percent increase in international grains prices in July 2012 was the third such price spike in the last five years. As in the previous episodes, the trigger was weather-related: drought reduced maize production in the USA and wheat production in Russia and Ukraine. The resurgence of high food prices awakened fears of a repeat of the 2007-2008 food crisis that would threaten increasing food insecurity, rampant food price inflation and civil unrest. Fortunately, the worst fears have not materialized although there remains a high degree of vulnerability to any further supply shocks. More generally, high and volatile agricultural commodity prices are expected to persist and continue to challenge the ability of consumers, producers and governments to cope with the consequences. The focus on price volatility and food security of the ninth meeting of agriculture ministers of the CIHEAM member countries in late September was therefore highly apposite, especially given the dependence of the Southern Mediterranean countries on imported grain.

Causes of recent food price behaviour

For most of the past fifty years, real agricultural commodity prices followed a downward trend. Since around 2002 it appears that food prices have departed from their long-term downward trend: prices have now been above trend for longer than at any time in the previous forty years and food price inflation has been faster than overall inflation in almost every country. Prices have also become increasingly volatile with successively higher peaks in 2007-2008, 2010-2011 and now 2012.

The secular downward trend in real prices reflected a tendency for technical improvements to increase yields and production faster than population and income growth increased demand. However, there has been some slowing of the rate of yield growth in recent years while demand has continued to grow rapidly. Low levels of investment in agriculture and in research and development, whether international or national, public or private, have slowed production growth. High rates of economic growth in emerging economies have increased food demand especially for livestock products and hence feed grains. At the same time, there has been increasing demand for certain agricultural products as feedstocks for biofuel production that has expanded significantly as a result of subsidies and mandates. Biofuel production links agricultural prices and markets more closely to energy markets and in particular to oil prices.

High prices tend to be accompanied by heightened price volatility. Some degree of price volatility is typical of agricultural commodity markets as a result of their fundamental characteristics. Even the most technologically advanced agricultural production is subject to natural shocks due to weather variations, as the current situation shows. Since agricultural product demand and supply are inelastic in the short-run, wide price adjustments may be necessary to clear markets, especially where stocks are low. The recent price volatility has its origins in such fundamental factors – weather shocks in key producing and exporting countries coinciding with low stock levels. However, it can be exaggerated by the closer linkages between agricultural and energy markets and by the “financialisation” of agricultural commodity markets which has forged closer links between the prices of agricultural commodities and those of financial assets although it seems that currently speculation is not a significant factor. Weaknesses in available information concerning production and stocks add to the uncertainty.

Impacts in the Southern Mediterranean countries

How much international food price volatility impacts on an individual country's food security depends on the extent of volatility itself, the level of exposure to international markets, the ease of price transmission from international to national

markets and the dependence on imports. International food price volatility has an uneven impact on the Mediterranean countries. For the developed countries on the northern side, impacts have been limited although even here high food prices have contributed to headline inflation rates. In the poorer southern and eastern Mediterranean countries the impacts have been profound, exacerbating an already difficult food security situation. It is a problem with social and political as well as economic dimensions and while its incidence is most pronounced in the southern Mediterranean countries the implications and consequences of this affect the whole of the Mediterranean region and beyond.

Population growth in the Southern Mediterranean countries is above the world average and the population has doubled in three decades. Urban population growth has been highest although rural populations still average 40 percent of the total. Youth unemployment remains high at 25-30 percent. Poverty is a serious problem with an average 20 percent of population earning US\$ 2/day. There is therefore a substantial vulnerable population, spending as much as half of their income on food and driving increasing food demand. Diets of the poor also often lack diversity so the scope for switching to less expensive foods is often limited. Wheat still provides 40 to 50 percent of daily energy supply. High food prices reduce the quantity and the quality of the food they can consume, worsening food insecurity and malnutrition and pushing more households below the poverty line.

At the same time the domestic capacity to meet food demand is weak. Limited and depleted water and land resources as well as low and variable rainfall constrain domestic production. Cereal production is 50-60 percent rain-fed so there are marked fluctuations in domestic production according to climatic conditions. Climate change, to which the region is particularly vulnerable, will exacerbate these problems. In principle higher prices should provide an incentive and the finance for increased investment and supply response. However, the incentives and a positive supply response have not materialized, at least for smallholder producers. A variety of supply constraints including higher input prices, lack of credit and weak marketing infrastructure prevented any significant supply response. For poor food producers price volatility means uncertainty and increased risk that deter the investments essential to increasing food production.

The growth in demand and constraints on domestic production mean a high dependence on food imports (55-70 percent of wheat consumption) and hence exposure to the volatility of global agricultural markets. Aggregate wheat imports of Southern Mediterranean countries account for some 17 percent of world wheat imports, but only half is imported from Northern Mediterranean countries. Much of the rest is imported from the Black Sea region where production and exports have been highly variable and exports made less reliable by consequent export restrictions.

Higher international food prices resulted in accelerated domestic food price inflation in 2008 and 2010 in the Southern Mediterranean countries. However, with the exception of Egypt, rates of increase were relatively moderate compared to global averages due to heavy food subsidies. In general, food price inflation has been higher than overall inflation reflecting an average 40 percent food component in the CPI. By food groups, inflation has been markedly lower for cereals and bread. Prices of subsidized products appear to have remained stable while free market products increased markedly. With an average of 40 percent of household expenditure on food, the food price crisis had a negative impact on households' budgets. However, that impact was largely mitigated by social safety nets and consumer subsidies.

Policy choices to manage price volatility

While individual countries can do little to control international price volatility, they have a variety of policy instruments at their disposal to manage its national consequences and reduce their vulnerability. For the countries on the Northern side of the Mediterranean the impacts of food price increases and volatility have been limited and have not demanded a policy response. However, on the Southern side, countries have used a range of policies to protect availability and access to food.

Consumer subsidies have been the preferred policy option for restraining food prices throughout the region. These have succeeded in limiting the transmission of higher international prices to domestic consumer prices for the products concerned. In most countries, food price inflation rates were restricted to between five and seven percent in 2008 and one and six percent in 2011. The exception is Egypt where these figures reached 24 and 20 percent respectively, although this is still lower than in many food-importing countries in other regions of the world.

Despite recent efforts made by some governments to improve targeting, food subsidies in Southern Mediterranean countries generally benefit all consumers: the poor and the rich. Subsidized flour intended for the production of a fixed price type of bread is also used to make other uncontrolled products such as expensive breads and pastry. Because of this lack of targeting, food subsidies have been inefficient in protecting the food security of the poor. At the same time, high subsidies have led to waste, including the use of bread for feed, and increased the dependence of the poor on subsidized cereals and bread, aggravating existing tendencies towards malnutrition and obesity.

As cereals prices increased, governments increased fiscal expenditures on existing food subsidies but also expanded the range of products covered. Morocco extended subsidies on ordinary "social" wheat flour to other flour and bread. It also subsidized imports of soft and durum wheat thus virtually subsidizing all cereal products (about 50 percent of calorie intake). Tunisia and Algeria also extended the range of wheat flours and breads subsidized. Egypt, where the price of bread is universally subsidized, maintained prices unchanged at US\$ 0.06/kg, the same since 1988. As a result of high international prices, the costs of food subsidies have doubled since 2007 and account for between one and two percent of GDP. Such expenditures on subsidies are neither efficient nor sustainable.

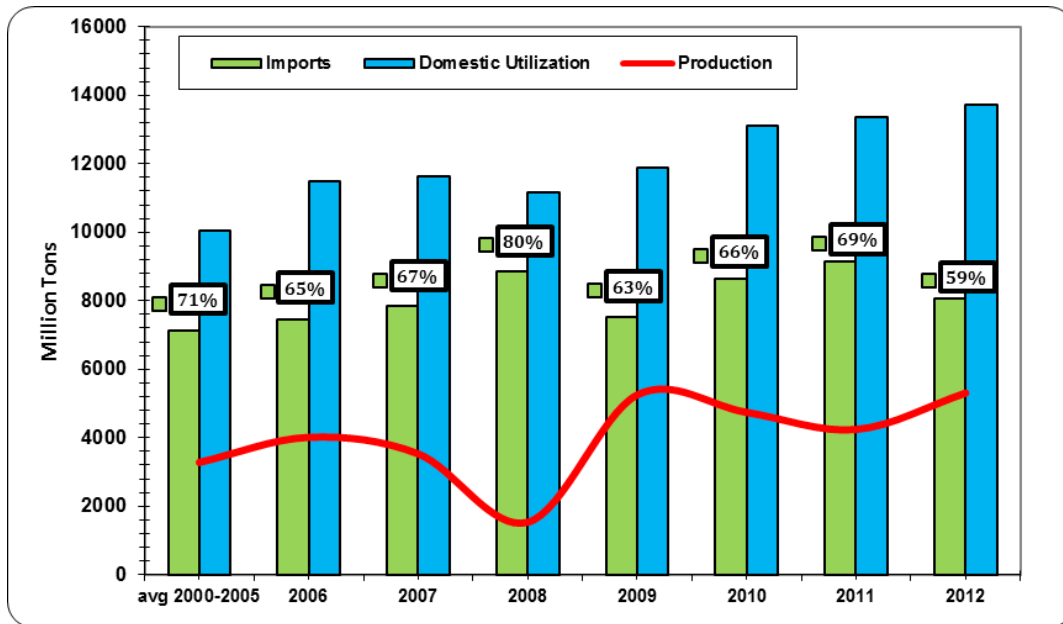
All Southern Mediterranean countries reduced or eliminated import tariffs as a quick and cheap measure to hold down the cost of imported food. Some countries went further in actually subsidizing imports. Cereal import tariffs were reduced sharply but given the size of the price increases on world markets compared to typical applied tariffs, such measures had little impact on domestic food prices. They also forfeited tariff revenues that might have been used to cushion the impact of food price inflation. Egypt introduced export controls, on rice in an attempt to maintain domestic availability but these distort incentives for increasing production in the medium term as well as driving international prices even higher.

Governments also intensified production support measures, notably increasing producer support prices to levels above international prices and subsidizing agricultural inputs. Various measures were introduced to stimulate an expansion in production. These included subsidies on inputs including seeds and credit and raising producer prices. Increases in producer support prices were in some cases large. Minimum producer prices became higher than import prices in Egypt while the government was simultaneously expanding consumer subsidies. While such measures were aimed at encouraging a short-run supply response the various supply side constraints small producers face militated against any significant increase in output.

Given the lack of preparedness for price spikes, it is not surprising that countries responded with policies that while readily introduced were not necessarily coherent or effective. In general, subsidy policies have succeeded in controlling domestic prices in the short-run but their sustainability is uncertain. Trade measures appear to have had little impact. More can be done to reduce fears of recurrent crises and move towards resilience and stability in a region where vulnerability to the impacts of international food price volatility is especially high. More effective safety net measures such as cash transfers might be more widely explored. The possibilities of strategic food reserves are also attracting renewed attention. At national level, futures and options contracts could be used to manage volatility in food import bills although this is costly and only Tunisia has explored the potential. Support to producers is important but needs to go beyond the kind of short-run price support offered in most cases. The agricultural sector has suffered decades of under-investment and general neglect. That needs to be reversed and with due recognition of the need for sustainability and adaptation to climate change. Investments in infrastructure, extension services and research and development specific to small-scale agriculture are needed to sustainably increase productivity and access to markets. Governments also need to create an enabling policy environment to encourage private sector investment. More efficient and coordinated policy and strategy choices in relation to cereal price volatility need an improved information and early warning system for the region. Price and market information in the region is currently weak and there is a need to create an effective information gathering and dissemination mechanism at regional level along the lines of the G20's Agricultural Market Information System created in 2011.

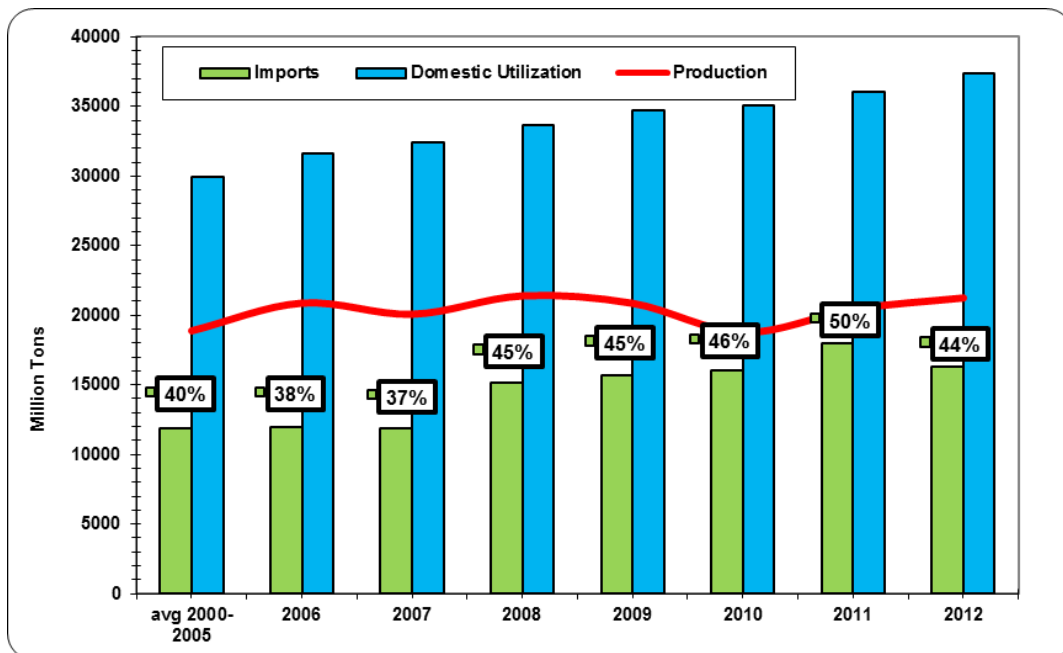
ANNEXES

Algeria: Total cereals consumption, imports, domestic utilization, import dependency ratio (2000 – 2012)



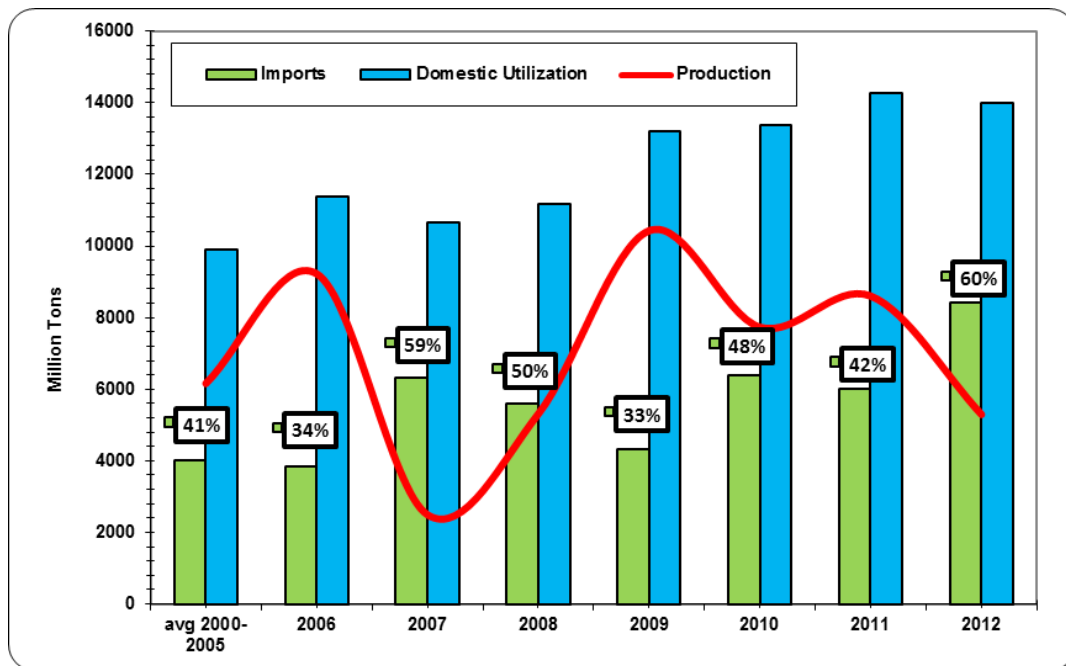
Source: UN Comtrade

Egypt: Total cereals consumption, imports, domestic utilization, import dependency ratio (2000 - 2012)



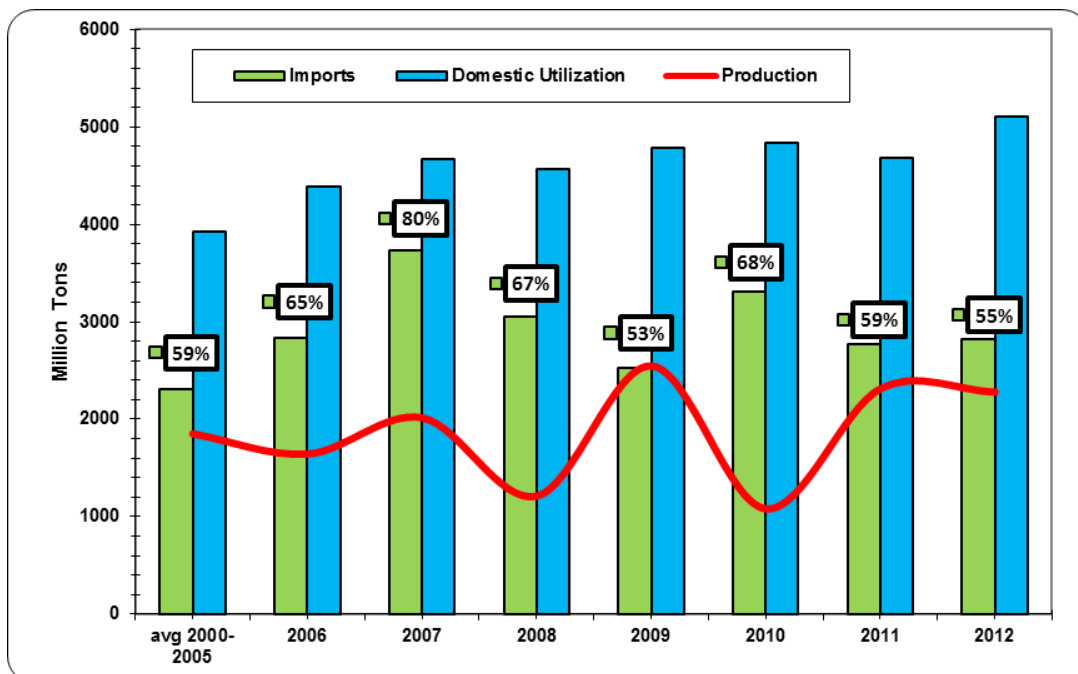
Source: UN Comtrade

Morocco: Total cereals consumption, imports, domestic utilization, import dependency ratio (2000 - 2012)



Source: UN Comtrade

Tunisia: Total cereals consumption, imports, domestic utilization, import dependency ratio (2000 - 2012)



Source: UN Comtrade



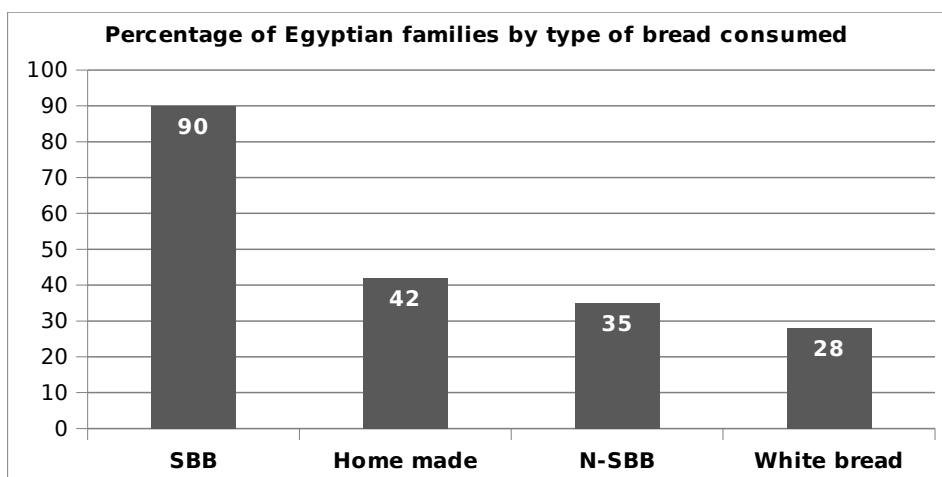
The politics of Bread in Egypt

Habiba Hassan-Wassef
Consultant, Egypt

Bread in the 25 January revolution

“Bread, freedom, dignity” and “Bread, freedom, social justice”, in Arabic, “aish”¹, horreya, karama insaneya” and “aish, horreya, adala egtema’eya” (Mehrez, 2012) was the alternating rhyming cries of the protestors in Tahrir Square. The demand for access to an improved quality for the subsidized flat brown “baladi” bread had become a major and priority issue for the people of Egypt over the past years and especially following the global economic and food crisis of 2008 when the demand exceeded the production. Since January 2011, the situation continued to deteriorate, in particular during the succession of short-lived governments over the period from 11 February 2011 to 3 August 2012 (the date the present government was sworn in).

The struggle of coping with high food prices and the rising cost of basic commodities, which reached an unprecedented high represents an added economic burden on the people and significantly reduces their purchasing power. This state of affairs increased the dependence of the poor on subsidized bread for their very subsistence. Solving the bread crisis thus became one of 5 promises of President Morsi’s electoral campaign with the intention of responding to the demand for better quality subsidized bread and easing popular hardships. The promise was to - at least - achieve significant inroads within 100 days from assuming office (Al Ahran, 2012)². This represents a major challenge for the new government as the subsidized baladi bread (SBB) production system had cumulated complex inter-related problems to reach proportions of an insurmountable magnitude.



SBB = Subsidized baladi bread
N-SBB = Non-subsidized baladi bread
Note: Consumption in same family is not limited to one type of bread

Source: Information and Decision Support Center (IDSC), July 2009, Subsidized Baladi Bread Survey

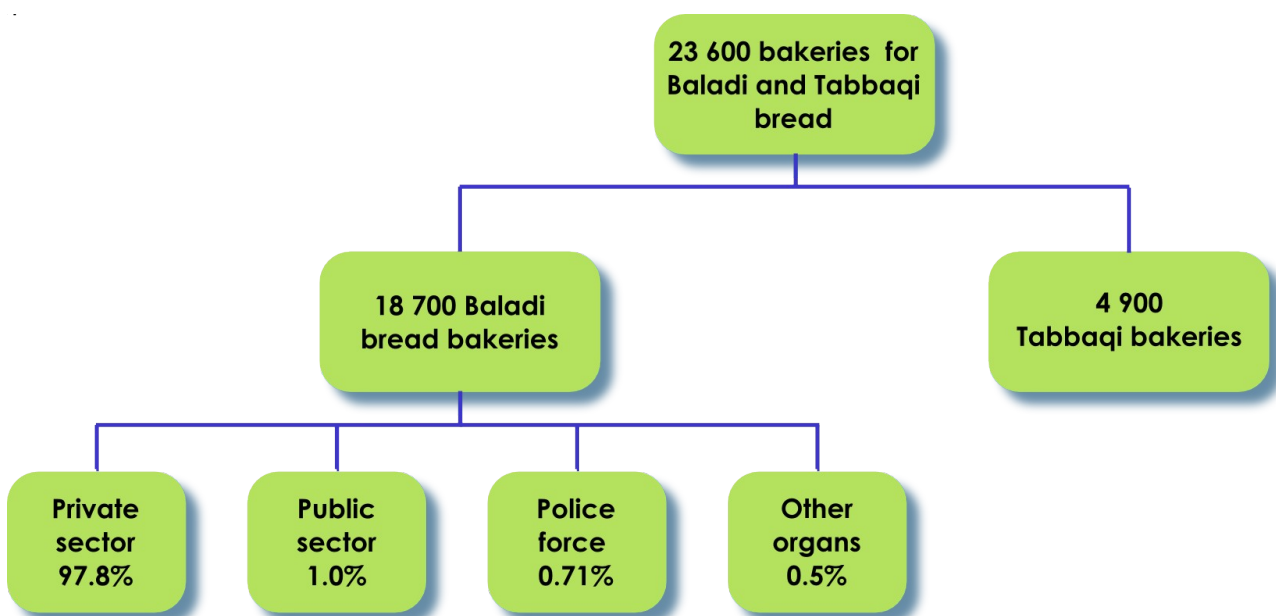
¹ The Egyptian word “aish” for bread (Arabic for bread is “Khobz”) carries two connotations: aish bread and aish life.

² The other four promises addressed security, traffic congestion, fuel availability, and dumped waste and garbage.

Bread, a political and strategic commodity

Regarded as a political and strategic commodity, all that has to do with bread whether price, quality and or availability, is a highly sensitive issue. The post revolution exercise of people power that succeeded in influencing the course of political and policy decisions of the ruling authorities has given new weight to complaints about the SBB problems that had been little heeded over the past years. In the late nineties, an extensive study of the subsidy system, including the SBB, had been undertaken with the technical assistance of the International Food Policy Institute of Washington D.C. (Ahmed et al, 2001). The aim of the study was to investigate the effectiveness of the food subsidy system and to look into ways to reduce costs and to propose politically feasible options for reform of the system. Better targeting of the subsidized food items to those in need and reduction of leakage into the black market by mixing maize flour with the 82% extraction wheat flour (20% to 80% respectively) had been proposed as politically acceptable strategies. Proposals that were not politically acceptable included eliminating the subsidies to other food items and recalculation of the subsidized wheat allocations to governorates in function of their poverty levels. Over a decade later, the government position on continuation of the SBB remains unchanged and the price of 5 piasters per loaf is maintained. For the current financial year, the cost of the bread subsidy in the national 2012/2013 budget will be increased to a record high of about 16,2 billion LE1, which is a 49.5% increase over the 2011/12 budget. This figure reflects the increase in the unit production cost of one loaf of SBB from 19.5 to 24.5 piasters2 (Maghraby, 2012). Making available the SBB to households with limited incomes remains the national strategic aim of the subsidy programme to which is added a health strategy for supplementing the 82 % extraction flour with iron compounds and folic acid to raise its nutritional value. The main objective of the present reform is to restructure the subsidy system in a manner that raises the quality of the product and the efficiency in reaching the target population, and at the same time counteracts corrupt intermediaries responsible for deviations and important leakages.

Production system for subsidized bread (April 2010)



Source: Ministry of Social Solidarity

Bread production and consumption. Some facts and figures (IDSC 2010)

- 90% of all Egyptians consume SSB and 60% depend on it as the main food item.
- SBB provides the consumer with about 52% of daily requirements in calories and 70% of needs in carbohydrates and proteins in addition to some vitamins and minerals.
- Mixing of subsidized wheat flour (82% extraction) with maize flour at the ratio of 80 to 20% respectively was initiated in 1995.
- Bread subsidy in financial year 2012/2013 is LE 16.2 billion.
- About ¾ of the subsidy budget for food commodities is allocated to bread.
- Evolution in price of bread from the 0.5 piasters or PT to current price of 5 PT started in 1980 with an increase to 1 PT to 2 PT in 1984 and to 5 PT in 1988. (1 LE = 100 piasters)
- Average per capita consumption of families eating SBB is 4 loaves per day, higher figure for urban governorates.
- Rural governorates of Upper Egypt are the highest (55%) consumers of home baked bread, followed by Lower Egypt (50%) and urban governorates (5.9 %).
- Daily SBB production is estimated to be over 250 million loaves each day.
- 79% of SBB bakeries produce baladi bread (made of 82% extraction flour) and 21% produce tabbaqi bread (76% extraction subsidized flour). (Fig. 2)
- 97.8 % of licensed baladi bread bakeries are owned by the private sector.
- An estimated 30% loss and wastage in SBB is attributed deterioration in quality, which in turn represents the squandering of millions of subsidy money.

Responding to 'people power'

The major change in the post-revolution political scene is the importance given to demands of the "people". Neither the people's complaints nor the challenges of the SBB system have changed from before the pre-January 2011 era. What has changed is the ability to mobilize 'people power' that has now become a factor in the political equation capable of influencing the direction and response of politicians and decision makers. The dragging on of the post-revolution unsettled conditions with rising unemployment and loss of livelihoods, and the accompanying increase in poverty rates, made of the subsidized bread a lifeline to households who are experiencing growing financial stress. The present administration is aware of the political importance of responding to the people's concerns and of solving the SSB problems. The members of the Economic and Financial Committee (EFC) of the Shura Council (The second chamber of the People's Assembly), entrusted with advising the Presidency on the matter, were conscious of the enormity of the challenge and assumed the task with a sense of great responsibility. The EFC consulted with and sought the opinion of the various actors and stakeholders along the entire SBB value chain (Hassan-Wassef, 2012). The advice of the concerned sectors, the expertise of the scientific and the support of the international community were also mobilized. They all contributed to the realization of the common objective of reforming and restructuring the SBB system.

The Presidential bread file

The much awaited publication by the Presidency of the Republic of the 'Bread File' (Al Ahram, 2012) showed a rational and realistic approach to addressing the challenge of coping with the problems facing the SBB production system. It reflected continuity in the stance adopted by the EFC of the Shura Council in treating the SBB issue. For the first time, the political instances in Egypt accept and admit the realities of a situation and seek practical and rational solutions in consultation with all the stakeholders. The complexity of the situation is recognized, and the envisaged plan adopts urgent measures as well as a medium and long-term vision for coping with the identified problems. Creating a more skilled and educated workforce, introducing advanced technology; reducing the environmental footprint, improving the quality of the end product; separating the bread production from the distribution function; and progressively increasing the number of mechanized mega-bakeries are some of the features of the restructuring programme to be applied to the baladi bread production system.

Dealing with the bakers' lobby

Strategies and measures to solving the longstanding complaints and problems suffered by the baladi bread bakeries were an important component of the restructuring and reform programme for the SBB system. Forming a powerful lobby, the threat of a strike last October 2012 on a week's notice was narrowly averted. The strike would have been observed by 25000 bakeries and 500 000 workers across the country. The strike was averted through dialogue and negotiations with the bakers led by the General Union of the Chambers of Commerce in the presence of the concerned ministries and other stakeholders. The complaint concerned the non-recognition by the government of the real production costs incurred by the bakeries. This is a critical issue as this calculation forms the basis for setting the unit

price the government will pay the bakers for their bread production. The central role of the SBB bakeries is an integral component of the SBB system reform programme and a number of important strategies and measures benefit the SBB bakers. An important political decision was that of cancellation of past debts and fines. The promise of timely delivery of the respective allocations of the subsidized flour and payment of their dues was an important issue for the bakers. Of direct interest to the bakers are the credit facilities and negotiated reduced cost of connecting to natural gas supply systems which is a political incentive to encourage bakery owners to change from use of diesel fuel to the environment friendly and much less costly use of natural gas.

The in kind subsidy system versus cash transfer

The many problems facing the SBB system led to investigation of the option to adopt an alternate system for cash transfer. Croppenstedt et al (2006) argue that the results of the multi-market model applied in Egypt with the intention to explore the effects of shifting from in-kind subsidy system to one of cash transfers showed favorable results. If politically accepted, a cash transfer system would be more efficient in targeting the poor; in reducing subsidy leakage to the non-poor and the subsidy could be extended to a larger number of the poor than in the case of the in-kind subsidy system. However, in addition to the many identified constraints that rendered the adoption of such a system politically unacceptable by the Egyptian authorities, the cash transfer option was also not acceptable to the households themselves. This was evident from surveys and opinion polls undertaken by the Information and Decision Support Center of the Cabinet (IDSC). The households' non-acceptance for the cash transfers is based on their refusal to become exposed to the risk of having to cope with unpredictable price fluctuations.

Bread in politics

The government ruling that only licensed distributors are allowed to handle bread distribution in neighborhoods and in governorates, will counteract the tendency manifested by some political parties to seek popular level credit for their party by establishing distribution systems in their name. It is important to be wary of the use of the bread distribution bottlenecks for political ends. The political direction adopted by the present government is to adopt a comprehensive approach for restructure and reform the SBB production and distribution system in a manner that raises its efficiency, avoids waste and loss and maximizes the benefits to the consumer. The major change in the approach to the bread subsidy issue is that it is no more regarded as a simple burden on the state budget, but is viewed as a social expenditure and a real investment in the people of Egypt and in the future (UNDP 2011). The declaration made by the Minister of Finance of the intention to further increase the subsidies for bread and wheat in the State budget for the financial year 2013/2014 to cover the annual population growth is confirmation of this political orientation.

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Grains Market Hedging and Financial Speculation: challenges and risks for the MENA Region

Bruce Tozer

Consultant, De Novo Agricultura Pty, Australia

During 2012 and especially since April, the world is again in a situation of rapidly rising food prices for the key staple agricultural commodities essential for human nutrition, namely wheat, soybeans and maize. Increasing levels of acute malnutrition are rising in those countries least able to absorb higher prices. Fortunately, the situation with respect to rice, where yields have been good in the 2011/12 harvest is a less serious issue for countries in which rice represents a core part of the staple diet. However, for those countries that are structural importers of grains and especially wheat, as is the case for the Mediterranean Basin and North Africa, the problem they face with respect to securing adequate supplies of quality wheat at reasonable prices and protecting their populations with low incomes from high food price inflation is acute. This is the third time in the last five years that commodity price spikes of this nature and degree and have taken place. It is a source of economic, social and perhaps even political volatility, which cannot be ignored; and for which solutions that protect the most vulnerable and exposed have to be found.

Much debate and public ire has been directed at the role of speculators and financial institutions and investors in agricultural commodities, as being the main contributory factor causing rising prices and is therefore the target for increased regulation and control; with some commentators calling for an outright ban of any financial markets activity in agricultural futures and other derivative instruments.

This short article, will not be technical in nature but will address the fundamental supply and demand conditions driving markets and some of the controversial issues with respect to derivatives markets in agricultural products; argue that whatever the cause of high prices and volatility a key response must be to seek structural measures and policies to boost supply and comment on some of the considerations that structural importers of grains should take into account when setting up a financial risk management policy. To conclude I will highlight some of the regulatory and "capacity" bottlenecks that need addressing in order to make the use of commodity derivatives more accepted as part of an overall risk management strategy in the region.

Supply and demand factors are the primary drivers of grain markets- speculators follow

The rally in grains prices since April 2012 has been driven by acute drought in the US and supply issues in Russia and the Ukraine, leading to very low levels of inventories and the need for demand rationing of all major grains. We have witnessed highly unusual and supply destroying weather patterns across continents and countries that are major exporters. This should also serve as a warning of the potential longer term impacts of climate change on agriculture and markets.

The drought in Central US is the worst since 1936 and since May it is estimated that 105 million metric tonnes of US feed grains & 16 million metric tonnes of soybean production have been lost. In 2012 the loss of some 40-44 million metric tonnes (18-20%) of soybean production in the Western Hemisphere will require acute rationing until the Latin American crop is harvested in January and February 2013. In addition the FSU region has suffered grain losses amounting to 40-49 MMT's with the Russian wheat crop worse than in the disastrous drought of 2010. Furthermore, wheat production in parts of North Africa, have suffered from drought in 2012 with Morocco particularly negatively impacted. As a consequence it will need to import 4.5 million tonnes of wheat in 2012/13 and has negotiated a USD 6.2 billion precautionary loan from the IMF to cover this requirement

These tight supply and inventory levels could see CBOT prices for corn reach USD 10/bushel and soybeans USD 20/bushel, based on historic regression analysis relating market prices to closing inventory levels. Since the start of 2012 prices for corn, soybean and wheat have risen between 30-40%. A return to normal weather patterns and yields in 2013/14 would increase stocks towards more normal levels and ease price levels and volatility. However any further major supply interruptions could be explosive to prices in key markets. Looking more closely at the wheat world prices, which are critical to the region, one should start by understanding the dynamics in corn, which have been driving the grains sector in 2012 and indeed since the growth in the US corn ethanol mandate.

Corn has experienced acute tightening of supply whilst facing firm demand. This has been explosive to price. The US corn crop conditions are the lowest on record for mid-September ratings & US corn stocks have only been this low for 3.3% of the time since 1973. Furthermore, world corn stocks (including China) are the lowest in 39 years, at 12%. Whilst the US ethanol mandate may have peaked as the driver for ever expanding US corn and row crop production acres, the economic incentive to blend ethanol remains independent of the mandate, putting an effective floor under corn demand at around 4.5- 5.0 billion bushels/annum. There is an urgent need to ration demand for feed grains and especially corn, to rebuild inventory levels and reduce price pressure but this is difficult when global meat consumption is still growing at 4% p.a. A return to trend US yields (160+ bushel /acre) in 2013/14 and flat ethanol demand could see US stocks surge to 1.5 -1.75 billion bushels, which would ease pressure. However, China's demand for corn remains firm and per bushel cost of production well above US costs. The big unknown factor over next decade will be whether China becomes a scaled importer of corn, in the way that it has for soybeans. If it does one would expect to see further tightening of fundamentals and more volatile markets in season when yields fall below trend in key exporting countries.

Wheat has largely been following corn rally. Despite the dire Russian wheat crop world inventories are higher than in 2007/08. However, major wheat exporter's inventory levels have fallen to 2007 levels at 13%, significantly below trend (20-25%). Russia is now expected to slow exports if not directly through export bans, as it has done twice previously since 2007. For major importers of wheat especially in MENA Region this has become a strategic issue for managing physical import purchasing and price risks, when faced with volatile supply from FSU origins. This supply volatility has become and seems likely to remain the major swing factor in world wheat markets. The Australian crop is currently under some threat from dry conditions and unlikely to boost global inventories running into 2013.

Market Price Volatility and speculator involvement

I believe that it is the strength of these supply and demand fundamentals that is primarily driving world commodity markets prices higher and causing intermittent volatility spikes, but also is the trigger for investor and speculative flows of money into commodity markets. However the impact of macro-economic and quantitative easing monetary policy in response to the persistent recession since 2007 and the Euro zone crisis has flooded the world with liquidity some of which has found its way into commodity markets as a hedge against monetary inflation. Without doubt these market conditions attract speculative flows of capital to commodities markets, which may in some cases exacerbate short term volatility. However, the evidence as to what degree of impact this has on agricultural commodity prices is at best contradictory, with both sides of the argument strongly advocating their position. This has presented a technical and political problem to regulators, for which they have been forced to respond. The core proposals on position limits and reporting that are being put in place, will serve to control the volume of speculative capital that can be placed into given markets at any time. The level of transparency and reporting that will be demanded by the CFTC on CBOT contracts and increasingly in Europe, with respect to Matiff based contracts, will have a material impact on investment flows but is also starting to cause liquidity problems for some physical trading companies needing to hedge their physical positions.

However, I would caution against regulators pushing too far down the road to restricting the flow of arbitrage capital that is vital to having liquid markets and efficient pricing along the length of the futures curve for core commodities. Without this consumers, producers and traders will not be able to effectively hedge their risks and bid offer spreads will increase in spot physical markets, this would benefit few in commodity value chains and certainly not those most exposed to the acute risk and negative impacts, namely the poorest consumers in the most import dependent countries. The cost of implementing position limit reporting requirements is causing some financial institutions to exit these markets, added to the funding problems faced by some major European banks as a result of the crisis and liquidity for both commodity finance and risk management is getting significantly tighter.

Finally, the absence of derivatives markets and speculative activity from a commodity market does not guarantee low prices and volatility, if physical supply and demand conditions are tight. This has been the case in 2011/12 in mustard seed in the US and apple juice concentrate in China, both of which have experienced huge price rises and high volatility.

For those wishing to totally exclude financial institutions and investors from agricultural markets, I would caution, beware of what you wish for, because the unintended consequences might well be a constrained ability to fund and hedge essential physical commodity flows but also reduce the vital increase in long term capital that agriculture needs to boost supply. We need to be very considered about how to make markets work better and the role of speculative capital and to find a way to generate a more reasoned and less polarised debate, on all sides.

The importers dilemma

So for countries that are structural importers of a key commodity, such as wheat, the cornerstone of diets in many countries, it means that they are facing higher physical and budgetary risks than ever before. Having moved from a period of over-supply and high inventory levels, where buyers were able to largely dictate terms and not have to worry about high price fluctuations, it means that buyers and indeed finance ministries have to change the way they think and act. Markets have become much more globally linked via price, even though local conditions may have significant variations from world prices. It is vital to be plugged into the market dynamics across the grains sector and get a better understanding of what is driving short and long term movements. It is no longer sufficient to have good relationships with a few key traders, one has to understand and manage the financial and cash flow risks that are associated with both price and currency movements as never before. However, the last few years have presented longer term hedging opportunities for structural importers. Wheat prices fell from their 2008 peak to close to cost of production in 2009 until June 2010. During this period hedging strategies could have locked in prices at very reasonable cost and premium levels for up to two years forward. I would encourage importers to monitor prices against cost of production. Whenever they fall to close to below the average cost of production in major exporting countries such as France, US and FSU, they should consider hedging forward a reasonable percentage of their import needs over the next 12-24 months.

Hedging price risks

Importing countries have to find a way to integrate financial and commodity price risk management into the physical purchasing programs and to better understand the technical, credit and documentary issues associated with commodity risk management. In many countries in the region the use of derivative instruments is effectively excluded by legislation, for the understandable fear of the potential negative impact that derivatives incorrectly used could have. Indeed due to tight foreign exchange controls, in many North African countries the use of foreign exchange and interest rate derivatives is also highly restricted or non-existent. This means that there is little experience in the use and management of any derivative instrument

However, if we are facing a period of tighter supply and demand fundamentals and generally increased price volatility, the need for implementing hedging programs will increase and not decrease. To implement this will require a significant investment in capacity building knowledge and understanding, regulatory reform in many countries and creating the economic conditions where trading companies and financial institutions that provide hedging instruments can offer products to importing clients. Initiatives undertaken by the World Bank Group and IFC are a good first step in this direction, but much more needs to be done and it will take time and persistence. Ultimately it will require support from Finance Ministries and Central Banks.

However, there is an urgent need for countries in the region to do all that they can to economically boost domestic production and reduce crop loss and waste along their domestic value chains. I applaud the initiatives that are being taken in this area and it will require a targeted and investment and training program. Most of the countries of North Africa are unable to become food self-sufficient, but moves to bolster domestic agriculture and create employment would go some way to improving their own food security. Given what is at stake in the region we cannot afford to fail in find solutions to these acute problems.



Food Security and the Grain Chain in Arab Countries

Michelle Battat, Julian Lampietti, Sean Michaels

Sustainable Development Department, Middle East & North Africa, World Bank

Context

In the last five years, three price shocks in international agricultural commodity markets have jolted policy makers around the world to proactively address food security. There has been much discussion as to whether recent history is indicative of a “new normal” with more volatile and higher food prices, or whether prices will re-stabilize after an isolated period of price volatility that began in 2008. While there has been a lot of research identifying the multiple drivers of grain prices and price volatility,¹ without a crystal ball there is no way to accurately predict future food prices or price trends. However, governments can improve their preparedness to manage food security risks.

Two factors that drive grain price volatility are of particular relevance to the Arab world: climate change and erratic trade policy behavior. Both of these factors contribute directly to price shocks while simultaneously raising concerns about supply disruptions. First, climate change may contribute to an increased frequency of weather-induced supply shocks in local and global wheat markets,² affecting the variability of agricultural yields. Variability of production will be exacerbated by the expansion of agriculture into marginal lands, a response to increased demand for food from rising population and incomes (Wiebe 2003).³

Second, unpredictable trade policy decisions by key grain exporting countries further exacerbate existing market instability. In times of market volatility, exporters may impose export restrictions to ensure sufficient domestic supply and to stem any domestic price increases, but in turn may result in global price shocks. For example, in 2010, Russian and Ukrainian grain export restrictions put upward pressure on international prices.⁴ However, looking forward, Russia is now more limited in its use of export restrictions of wheat and barley since it formally joined the WTO in August 2012. Russia can impose temporary export restrictions to relieve critical domestic shortages, but it must first notify the WTO Committee on Agriculture as to the nature and duration of the measures and must consider the impact such actions would have on other WTO member countries. This will help developing, and in particular importing, countries have more time to react to possible export restrictions.

Arab countries are highly dependent on imported grains, particularly wheat, and this dependence is expected to grow. To increase food security, governments frequently declare that they will increase domestic production. While the efficiency of such a policy can be debated, self-sufficiency in grains production could be extremely costly for most Arab countries given their limited land and water resources. Arab countries are the largest net importers of grains in the world, importing roughly 56 percent of the grain calories they consume. Wheat accounts for the largest share of grain consumption and is a key part of the regional diet and Arab countries import 30 percent of the world’s traded wheat. Demand for wheat in the Arab world is relatively inelastic, resulting in little substitution even when prices are high.

¹ See for example: FAO 2009; Wright 2009, 2011; European Commission 2009; Heady and Fan 2008; FAO et al. 2011; World Bank 2011a.

² The international wheat market is thin (less than 20 percent of wheat produced is traded across borders), suggesting that small shifts in supply may result in large price shifts. Therefore, while weather-induced supply shocks directly affect local markets, they can also have significant implications for international wheat prices.

³ Population growth will contribute to increased demand for grains for food, while rising incomes will contribute to increased demand for grains for feed.

⁴ While a possible Russian wheat export ban had been built into the price of existing contracts, the ban nevertheless resulted in contract defaults and short-term supply disruptions for many Arab countries. Importers were forced to return to the international market to fill their supply gap and were faced with increased prices partly due to the unexpected export quotas imposed by Ukraine.

Therefore, with population and income growth expected to increase faster in Arab countries than elsewhere,⁵ projections of the region's food balance indicate that wheat imports will increase by almost 95 percent over the next 40 years (IFPRI 2010).

Managing wheat import risks is critical to improving food security in Arab countries. A recent study published jointly by the World Bank and the U.N. Food and Agriculture Organization *The Grain Chain: Managing Wheat Imports in Arab Countries* indicates that significant bottlenecks exist in the wheat-import supply chains throughout the region, and that certain policy reforms and infrastructure investments can be made to increase the efficiency and reliability of wheat imports. Such actions could help reduce the cost of importing wheat and product losses⁶ throughout the supply chain, thereby improving food security. Three key areas to focus on include procurement, logistics, and storage.

Opportunities to improve food security

Procurement

Policy actions that strengthen procurement policies will help reduce the cost of importing grains. Specifically, developing key trading relationships, improving the tendering process, and using commodity hedging strategies can help mitigate counterparty and price risks.

Developing strategic partnerships with reliable grain traders⁷ and key grain-exporting countries could reduce counterparty risks, which if left unmitigated could lead to temporary supply disruptions. For example, a free-trade agreement (FTA) with a grain exporter that includes a specific clause regarding the trade of wheat, as is the case in the Morocco-United States FTA, would not only strengthen diplomatic and economic ties between Arab countries and key grain exporters, but could also have secondary benefits for food security.

Ensuring that tender documents are aligned with international safety standards and reflect actual unloading capacities may allow suppliers to offer lower CFR wheat prices.⁸ The price of a tender frequently accounts for the anticipated vessel turnaround, which is based on time estimates for inspections and unloading. By harmonizing national safety standards with international standards, Arab countries can rely more on documentation provided by exporters, reducing time required for inspections and analysis at the destination port. Additionally, the contractual unloading rate in the tender is often set to be slower than the actual unloading capacity,⁹ increasing the expected unloading time required. Therefore stipulating unloading rates that accurately reflect port capacities may result in a lower CFR price and associated efficiency gains.

Integrating the use of physical and financial hedging instruments could also reduce exposure to price volatility and shocks. Some Arab countries are already using physical hedging instruments to lock in a price for wheat on a short-term basis. However, locking in the volume and price of wheat imports 18 to 24 months in advance of the delivery of the wheat could help governments with budget planning. While, the use of financial hedging instruments is not yet common practice in the Arab world, trading wheat futures and options on an exchange is yet another strategy countries could employ to help mitigate the price risks they face. A successful hedging strategy would be over a long term horizon, using a mix of the various instruments available, and could help governments better predict their future fiscal liabilities and thereby improve food security.

Logistics

Efficient logistics are critical to improving food security by delivering supplies in a timely and cost-effective manner. All segments of the wheat-import supply chain (WISC) are interconnected, whereby bottlenecks in one segment or node can have repercussions all along the supply chain. The Grain Chain study uses logistics costs (US\$/mt) and transit times (days)

⁵ Since 2005, the population growth rate of Arab countries has averaged 2.1 percent compared to a world rate of 1.2 percent, and the average income growth rate of Arab countries is 3.0 percent, outpacing the global average of 1.1 percent (World Bank 2011b).

⁶ Reported estimates of product loss, due to inefficient logistics, suggest that there is wide variation across Arab countries, ranging from 0.5 percent to 5 percent of imported wheat, costing up to US\$15 per metric ton in some countries. Product loss can occur for a number of reasons: poor grain handling systems, outdated storage facilities, inadequate transportation networks, unnecessarily long dwell times, and insufficient quality control systems and procedures can all result in substantial spillage and spoilage. Product loss could also be due to pilferage and smuggling, which tend to be more likely when international wheat prices are high.

⁷ Reliable grain traders are companies with a global network and have access to diverse sources of grain.

⁸ Incoterms Cost and Freight (CFR) is specified in contracts where the delivery of goods to a named port of destination/discharge is at the seller's expense. The buyer is responsible for the cargo insurance and other costs and risks.

⁹ As determined by the destination port's existing infrastructure and equipment. This may be done to build in buffer time in case there is an unforeseen logistics glitch during unloading; however, it could also be done to help the importer appear efficient by unloading within the terms of the contract, or even earlier than expected.

to measure supply chain performance for ten Arab countries.¹⁰ The average cost and transit time to move one metric ton of wheat from the port to the flour mill is \$40 and 78 days, respectively.¹¹ For comparison, average cost and transit time in the Netherlands is \$11/mt and 18 days; in South Korea, \$17/mt and 47 days. Logistics efficiency improvements can help remove bottlenecks throughout the supply chain, thereby improving food security.

Key bottlenecks throughout the region were at the destination port and during inland transit. At the port, vessel turnaround time, comprising waiting time in the harbor and discharge time at the berth, accounts for about 20 percent of total WISC costs in Arab countries.¹² However, turnaround times vary across the region, as do the reasons for any delays at the port. Turnaround time depends on the time required for customs procedures, inspections and analysis, as well as any delays due to limited berthing space, priority for other vessels (container, cruise, export), inadequate handling capacity, silos being full, poor scheduling, or inclement weather. Unpredictable waiting times can be considered a non-tariff barrier that raises costs for shippers, and they may also impede the timely delivery of wheat to people in need.

Inland transportation is another segment of the WISC in which poor logistics can threaten food security. Some Arab countries rely heavily on inland transport networks to move the wheat through the supply chain. Inadequate infrastructure such as poor road conditions or weak regulations in the transport sector may further increase the cost of transporting wheat, and it may also result in the loss of physical supplies due to spillage. Therefore, improving the quality of roads, expanding transportation networks, and reforming sector regulations can contribute to ensuring efficient delivery of wheat supplies and to reducing the cost of wheat-based products.

Storage

For a region heavily dependent on food imports, a strategic grain reserve policy may serve as an import risk management tool. Having physical reserves available for immediate consumption helps provide governments with critical lead time to secure alternative wheat supplies or supply routes in emergency situations. Moreover, a strategic grain reserve policy is counter-cyclical and can therefore reduce future market price volatility.¹³ Strategic reserves can also offer psychological benefits, reassuring markets that supply is sufficient and thereby calming possible fears of a supply shortage and reducing the inclination to hoard or steal wheat in anticipation of leaner times.¹⁴ In fact, historical data support this notion and suggest that there is a strong negative correlation between changes in wheat stocks and changes in world wheat prices.

Maintaining larger wheat stocks could reduce both domestic and international price volatility. With the increased volatility in international prices the last five years, many Arab governments have declared plans to increase their strategic wheat reserves, to improve food security. Not only do strategic reserves help stabilize domestic prices, but collectively increasing regional – and therefore global – reserves can have a positive externality by reducing volatility in international wheat prices. (Larson et al. 2012). In helping themselves, Arab countries can also help the world.

Three factors must be considered in establishing policy guidelines and decision rules for a strategic reserve policy: the threshold domestic price that triggers the drawdown of wheat reserves, the target reserve level, and the rate of reserves replenishment. The cost of a wheat reserves policy is dictated in large part by these three criteria. The lower the threshold price, the larger the size of the reserve, and the more aggressive the replenishment rate – the more costly the policy will be.¹⁵ As with any policy decision, the benefits of strategic wheat reserves must be measured against the cost of maintaining them and against the competing needs for the same funds.

Recommendations for CIHEAM countries

The recommendations outlined above focus on general themes that can render the grain chain more efficient and reliable, and can help most Arab countries improve their food security. Deeper analysis in each country reveals that there are detailed policy adjustments and infrastructure investments that can be made to directly address country-specific food security concerns. Following are recommendations for four CIHEAM members.

¹⁰ Study participants included Bahrain, Egypt, Jordan, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, and Yemen.

¹¹ See "The Grain Chain: Food Security and Managing Wheat Imports in Arab Countries" (World Bank 2012) for description of methodology.

¹² While discharge time is a function of unloading capacity and the cargo volume, waiting time is largely independent of vessel size and could be minimized.

¹³ Without any known reserves, volatility in commodity markets may drive a vicious circle of price shocks: volatility can encourage hoarding and pilferage, which ultimately reduces the available supply, further driving up prices, hurting poor consumers, and distorting market signals (Murphy 2009).

¹⁴ This assumes that the policy is effective in releasing wheat from the strategic reserve when prices are high.

¹⁵ There is no optimal level of strategic wheat reserves; the preferred size of the reserve depends on a country's level of import dependency, vulnerability to supply disruptions and price shocks, and risk tolerance. Ultimately, however, the size of the reserve comes down to a tradeoff between insurance against risk and the cost of that insurance.

Egypt

Egypt, the largest wheat importer in the world, has one of the highest wheat-import logistics costs in the region. Egypt could better manage its wheat imports by reducing bottlenecks at the port and improving inland wheat transport. First, Egypt might consider revising priority rules regarding the unloading of vessels, which currently priority to vessels carrying public sector wheat even if another vessel carrying wheat for the private sector is in the middle of unloading. Stopping a vessel in the middle of unloading causes port congestion adding unnecessary logistics costs. In addition, streamlining the inspections process, which currently involves at least four different agencies, could also help reduce costs at the port. To reduce the cost of inland wheat transport, Egypt could increase competition in the trucking sector and encourage the use of water transport.

Lebanon

Import supply chain costs in Lebanon are directly passed on to the consumer in Lebanon, as the private sector is responsible for the importation and milling of grains.¹⁶ To reduce the base cost of importing wheat in the short-term, thus lowering the cost to the end consumer, streamlining customs procedures and aligning wheat import inspections procedures with international standards would help reduce bottlenecks at the Port of Beirut. In addition, increasing port access to trucks throughout the 24-hour day would allow trucks to transport more wheat per day and would help reduce congestion at truck scales.¹⁷ In the medium-term, investments to upgrade Lebanon's road network (and possibly the re-development of a railway system) could significantly reduce the cost of transporting wheat from the port to flour mills. Currently, severe congestion in Beirut increases transit times while poor road quality outside of Beirut restricts trucks to carrying only 16 MT of wheat, compared to a standard bulk truck which could carry 25-28 MT of wheat.

Morocco

In Morocco, a primary cause for delays at the port is the seasonal and often prohibitive tariff imposed on wheat imports to encourage domestic production.¹⁸ Due to flour quality requirements which require imported wheat to be blended with local wheat, imported wheat is needed year-round. Therefore, agricultural tariff policies may have unintended logistical consequences as there is a surge of imports just before the high-tariff regime starts and immediately following their suspension, causing serious port congestion and increasing the economic cost of importing wheat. Removal of the tariff altogether or smoothing of tariff regime would reduce these costs. Investments to develop a third grain terminal at the Port of Casablanca would also help to alleviate port congestion and may also increase competition, reducing port unloading and handling costs. Lastly, revising the inspection and analysis procedures for animal feed imports, to minimize the inspections conducted outside of the port, may also help reduce turnaround times and associated costs.

Tunisia

Short-term policy adjustments such as streamlining inspections procedures for wheat imports, which currently involves three different agencies, and ensuring that contractual unloading rates stipulated in tender documents accurately reflect actual unloading rates, rather than underestimating actual unloading rates to avoid demurrage, could offer immediate savings in the wheat-import supply chain. Meanwhile, investments to upgrade unloading, handling, and storage equipment and to continue the expansion of storage capacity, particularly at the ports, would significantly ease logistical bottlenecks.

¹⁶ The government rarely intervenes, only in times of extreme high prices.

¹⁷ Truck access to the Port of Beirut is restricted to the hours between 9 AM and 5 PM.

¹⁸ The government of Morocco imposed a duty of 135 percent on soft wheat in May 2011 and of 170 percent on hard wheat in June 2011 (USDA 2012). These import tariffs were respectively suspended in October and November later the same year.

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Cereal Powers of the Black Sea and the Mediterranean Basin

Natalija Riabko
FranceAgriMer, France

A Strategic Area for Cereals production and trade

The Black Sea Region often represented by three major grain growers (Russia, Ukraine and Kazakhstan) returned to a major role in the global wheat trade in 2011/2012 after a severe drought in 2010 that led to the long lasting embargo that Russia imposed for almost a year. The Black Sea region accounts for over 20% of the 140 million tons of wheat annually exported worldwide. This means that the region is the second largest exporter of grain in the world after the U.S.

After the collapse of the USSR and the socialist camp particular importance was attached to the Black Sea region, primarily because of its geographical position given the intersection of transport corridors. The growing demand in key import areas such as the Mediterranean and the Middle East has pushed up Black-Sea area exports. Combined grain imports into North African countries such as Algeria, Egypt and Morocco have already doubled since 1990 from roughly 12 million metric tons per year to an estimated 38 million tons in 2012. This trend will only persist given that the North African market alone represents a constant interest for the Black-Sea region exporters mainly due to the close geographical location of this market as well as competitive prices means. At a time when all eyes are on Asia and the geopolitical struggle for these markets is gaining momentum, the Middle East and the Mediterranean are mostly associated with the growing crisis and the ongoing civil wars and look quite abandoned.

Indeed, since a while there's an ongoing fight between USA, Canada and Russia for the Asian markets. The Russian side expresses it by the expansion of port and rail infrastructure in the Far East (E.g. The construction of the port of Vostochny with the polyvalent terminal with the transshipment capacity of 5 million tons per year). Through this port Russia intends to export Siberian grain to Asian markets whose annual excess is of 5 million tons. Also, Russia is about to upgrade the Trans-Siberian Railway which connects the Russian Far East with its European part and in the future could become the shortest railway bridge between Asia and Europe.

There's also the ongoing expansion of the Russian presence in Europe. For example the acquisition of large French transport operator "Gefco" in October 2012 by the "Russian Railways". But one thing is for sure that no matter what Russia is not going to weaken its influence in the Middle East and the Mediterranean. In Soviet times, the Black Sea region remained the main supplier of grain to its southern neighbor countries. This is especially true for the wheat market as Black Sea wheat offer's value is best for the Middle East and the Mediterranean, as well as the Black Sea region geographical proximity that simplifies grain export.

The Black sea wheat has a high protein content much appreciated in such countries as Egypt and Saudi Arabia. In 2009 the General Office on supplies of Egypt (GASC) has tightened the requirements for the quality of purchased wheat. For full-scale U.S. wheat, the grain mass index was increased from 58 pounds / bushel to 58.5 lb / bu, the minimum protein content was increased from 0.5% to 9.5%. The index of the minimum content of protein for Russian wheat was indicated at the level of 11.5%, the French at 11%. The maximum quantity of residues of pesticides and disinfectants was set at 0.1% for wheat of any origin. In 2011 the new requirements had to be introduced as the response of GASC to the Russian embargo in 2010. The protein content of the Black Sea wheat had to be at least 12-12.5%, but it never came into effect due to the legal price advantage of Black Sea wheat.

The main advantage of the largest Russian port of Novorossiysk is that it does not freeze. Winter winds do not stop the operation of the port which is a big advantage for the importers of Russian grain. In the Black Sea, along with ships, the "river - sea" vessels are widely used. Most of the grain terminals are located in the mouth of the river in the vicinity of the entrance to the sea. The berths can accommodate the "river-sea" vessels up to 3000-5000 tons. For cargo there are open areas, but for the more fastidious of goods such as flour, the indoors is often used. All the above-mentioned forms a mobile dynamic system for Russian grain export, which is able to respond quickly to importers' demand. Russia's path to the Mediterranean goes through the Straits (Bosporus, Sea of Marmara, and Dardanelles) that are open to international commercial shipping.

The "grain will" of Russia

Despite a long history of weather problems, Russia is trying to take control of grain exports and defend its leading position in the world, including the Mediterranean region. For the first time since the collapse of the Soviet Union, Russia intends to implement a comprehensive strategy to modernize the grain sector, which includes such aspects as modernization of the transport infrastructure, soil amelioration, state support of grain producers and private investment climate improvement measures.

The implementation of this strategy however will come on the back of negative factors such as an excessive presence of the state in carrying out export policy, the monopolization of the transport infrastructure and the favouritism policy of the state vis-a-vis Russian grain market players. It is the degree of leveling of the above mentioned factors that will determine the success of implementation of the new strategy. This strategy spreads over the Mediterranean region in terms of export policy, as well as Russia's political and economic influence in the region.

Russia takes part in regular discussions on the geographical boundaries of the Mediterranean region, as the neighbouring countries that do not have access to the Mediterranean coast have very similar civilizations. For this reason, many experts consider the legality of the scientific concept of "Greater Mediterranean." Its content is seen in different ways, either including the Middle East, or spreading over to the Black Sea area. The elaboration of this term has a fundamental difference for Russia. The return in 2008 of the Russian fleet to the Mediterranean Sea on a regular basis was the statement of Russia's intention to strengthen its position in the region. Historically, Russia is one of the key players in the Middle East, especially if one bears in mind that Russia is a permanent member of the UN Security Council. Russia has close economic ties (from energy sources to tourism) with the majority of the Mediterranean countries. For example, From January to August 2012, 264.1 billion U.S. dollars accounts for trade relations between Russia and the EU member states and Russia's trade with the Mediterranean represents half of this figure. Russia's trade with the Mediterranean region is almost equivalent to Russia's trade turnover with the U.S., China and India combined. For comparison, in 2009 the trade turnover between Russia and the Mediterranean region was about 75 billion U.S. dollars, more than 45 billion U.S. dollars accounted for trade relations between Russia and the EU member states. These figures point out the upcoming trend for Russia's commercial interest in the EU and Mediterranean region despite the ongoing crisis.

However there is a strong conflict of interest in the Black Sea region. Yet today, Russia has a complicated relationship with its neighbors in the Black Sea: Ukraine and Kazakhstan (Kazakhstan is a current member of the Customs Union). These countries are Russia's direct competitors in the grain market. Their export vector is also directed to the Middle East and the Mediterranean. The Customs Union between Belarus, Kazakhstan, and Russia came into existence on January 1st, 2010. Belarus, Kazakhstan, and Russia are to move forward with economic integration and were set to remove all customs borders between each other after July 2011. It is separate from the Eurasian Union. With the prospect of creating a common economic space whose basis now is the Eurasian Union Russia is seeking to increase its economic power by trying to expand this space by persistently inviting potential members like Ukraine. The Eurasian Union includes the following countries: Belarus, Kazakhstan, Kyrgyzstan, Russia and Tajikistan. The idea, based on the European Union's integration, was brought to attention by the then-Prime Minister of Russia, Vladimir Putin, in October 2011, but was first proposed as a concept by the President of Kazakhstan, Nursultan Nazarbayev, during a 1994 speech at a Moscow university. On 18 November 2011, the presidents of Belarus, Kazakhstan and Russia signed an agreement, setting a target of establishing the Eurasian Union by 2015. The agreement included the roadmap for the future integration and established the Eurasian Commission (shaped on the European Commission) and the Eurasian Economic Space, which started work on 1 January 2012. According to Vladimir Putin, the Eurasian Union would build upon the "best values of the Soviet Union"; however, critics claim that the drive towards integration aims to restore a Russian-dominated union. Nevertheless, Kazakhstan and Ukraine stand up for their markets, in particular their grain market, and want to maintain their competitiveness.

Kazakh grain: opening new horizons

Earlier this year Kazakhstan has announced its intention to renounce the grain transit through Russia and Ukraine. The Republic is in the process of developing new ways for their grain export instead of the traditional transit through Russian and Ukrainian ports. The country's leaders are not satisfied with the high tariffs in neighboring countries. The alternative would be to use the port of Aktau towards Azerbaijan and then the railways through Georgia and Turkey. The port of Aktau is located on the east coast of the Caspian Sea. This is the only seaport in the Republic of Kazakhstan designed for international cargo.

According to forecasts, the season 2012/2013 will only bring 10 million tons of Kazakh grain for export. 4 million tons of grain will still be exported through the Russian and Ukrainian ports. However, from 2013 Kazakhstan will switch to the new alternatives. With the completion of the railroad between Turkey and Georgia, the cost of Kazakh grain shipping to Turkey will decrease from \$ 135 per ton to \$ 41. The construction of the railway line "Tbilisi - Kars" will be completed in 2013 - the first quarter of 2014. The railroad "Kazakhstan-Iran" via Turkmenistan will be operational at the same time. The population of the Persian Gulf consumes more than 23 million tons of wheat per year. This opens up great prospects for Kazakh grain. Today Kazakhstan has an orientation towards the export of processed products ("Canadian" model). The country became the first exporter of flour worldwide. The main importers of Kazakh flour are the following countries: Kyrgyzstan, Tajikistan, Uzbekistan and Afghanistan. Through the modernization of the railway infrastructure Kazakhstan will strengthen its position and will preserve its grain and flour monopoly within the targeted countries.

Ukrainian grain: struggle for the market

Ukraine will close its ports to Russian grain in order to preserve its market share. At the moment Russian ports have limited transshipment capacity. The main consumers of Ukrainian grain are Egypt, Saudi Arabia, Iraq and Jordan. Russia can only sell its grains through the ports of the Black Sea at the cost of developing port infrastructure at its own expense. Thus, the grain pool creation between Ukraine, Russia and Kazakhstan is still in question. The idea of creating the grain pool between Ukraine, Russia and Kazakhstan has been discussed for several years. This kind of pool would have a strong export position, while taking 20% market share. Russia would probably take the leading position.

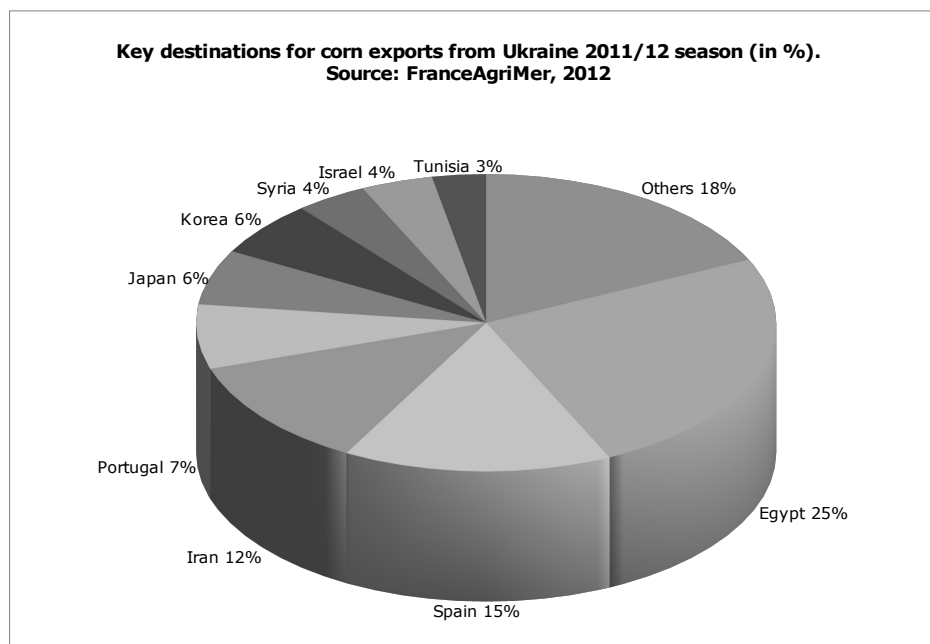
Ukraine is a direct competitor to Russia in the markets of the Middle East and the Mediterranean Basin. The Ukraine, being a part of the pool would be able to offset the Russian initiatives in the targeted markets. It seems more logical that Russia would begin negotiating first with Kazakhstan, Russia's partner in the Customs Union, and then would propose the well-established terms to the Ukraine. However, these plans may never be realized because Kazakhstan has managed to redirect its export vector from the Black Sea to the East. Just like Russia, Ukraine seeks to modernize its port infrastructure through private investment.

The current economic situation does not allow the State to manage the investment policy, given the budget deficit and debt. It is for this reason that companies with foreign capital or JSC represent the main exporters in the Ukraine and these are the companies that are investing in the port infrastructure. Two new grain terminals were constructed in 2011 in the ports of Kherson and Nikolayev. The loading capacity of the new grain terminal of Nikolayev is 3 Mt. The second grain terminal in the port of Kherson is designed to handle grain volume of approximately 350t/hour by rail and 300 t/hour by road. This terminal main's orientation is for grain export to Egypt. Exporters seek to reduce costs by building their own transshipment terminals to protect themselves against delays in deliveries and possible corruption.

Emerging Trends and new challenges

The 2011/12 season saw a breakthrough in Ukrainian corn exports. The shipments exceeded 15 MT: tripled against the previous marketing year. As a result the Ukraine outstripped Argentina and Brazil and became the world's second largest corn exporter, second only to the USA. The key destinations for Ukrainian corn exports in 2011/12 were North Africa, the Near East and the EU.

The official data show that Ukraine exported 4.78 million tons of wheat by November 12, 2012 and that the additional 617000 tons will be shipped abroad in the near future. 303000tons of wheat are already loaded in the ports, another 314000 tons are in port warehouses and ready for shipment. According to experts of the leading Ukrainian analytical agency "UkrAgroConsult", the embargo on wheat exports is likely to be introduced by the end of 2012, but it is still unclear when the Ukrainian Ministry of Agriculture will announce its decision. The grain traders in Ukraine fear that instead of the official ban the informal constraints may be chosen. The grain traders are in favor of an official ban. Informal constraints mean the closure of export for most traders on the one hand and the preferences for selected companies on the other hand. This can damage the image of Ukraine as a global trader.

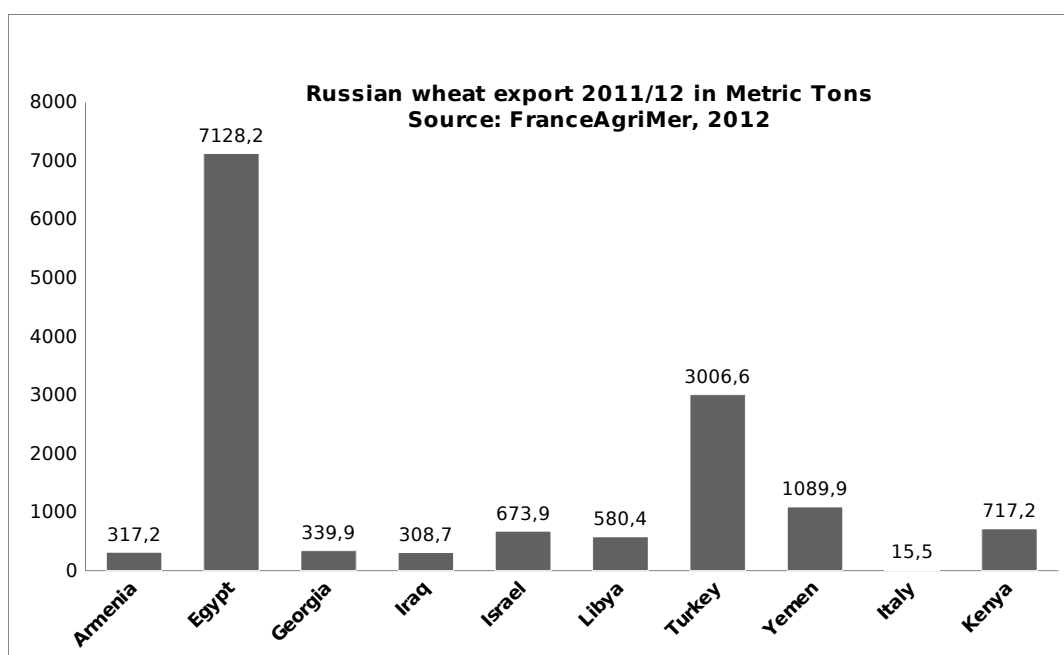


The ongoing drought can reduce the yield of wheat in Russia, Kazakhstan and Ukraine by 37% this year, which would lead to a reduction in world stocks to a four-year low. According to the U.S. Department of Agriculture forecast announced on October 11, the export of Ukrainian wheat in the 2012-2013 crop years will be the lowest in five years, which represents 4 million tons. The stocks before the next year in the northern hemisphere could fall to 173 million tons, which is 13% lower than last season. Despite the drought, Russia has no plans to impose restrictions on grain exports, which will favorably affect the loyalty of importers.

Concerning Russia, The general market for its grain is represented by countries such as Egypt, Saudi Arabia, Iran, Tunisia, Morocco, Italy, Spain, Israel and Greece. The main consumer of Russian wheat in Southern Europe is Italy. The forage crops are imported mainly in the Middle East and Africa. Bahrain has recently joined the club of regular importers of Russian grain. Russian grain is exported to 80 countries, including Bahrain. The Middle East is one of the leading countries for Russian exports. At present, it accounts for about 30% of shipped grain volume. In 2011 Russia exported its grain to Bahrain for the first time. This test batch of about 10000 tons was an important start. It was well-received which gave Russia good prospects to continue in this market. According to the Russian Ministry of Agriculture, in addition to the grain, there are possibilities for additional processing products, i.e. flour, for export to the Middle East region have been discussed. In 2011, Russia has already sold more than 200 thousand tons of flour to other countries. Russia intends to increase these figures. The country will expand the export line of Russian food products, focusing on those with high added value, which will allow to promote the development of Russian processing industry. Egypt is still the largest Russian grain importer. Since the beginning of 2012 the country imported more than three million tons of Russian grain.

Since 2005 the Russian grain quality has improved due to significant investments in farms and silos (E.g. New handling and drying equipment/the general state of stocks is still poor). Due to this improvement along with the high protein rate of Russian grain and in particular Russian wheat has become a real threat to the French wheat which has traditionally dominated the North African market. Along with these improvements Russia is making great strides in its Black Sea port infrastructure modernization, taking into account the lack of transshipment capacities in the Russian ports of Black Sea. Unlike the Ukraine, the Russian state is investing in the grain industry and firmly controls the export through the creation of specialized government agencies.

The United Grain Company, OJSC is a Russian state-controlled agricultural company, created in accordance with the Russian presidential decree in 2009, and is aimed at developing the infrastructure of the grain market, realizing the export potential of Russian grain on the global market, and actively buying and selling on the domestic grain market. As a contribution to OZK's (UGC) share capital, the Russian government transferred blocks of shares of 30 companies



located in 18 Russian regions. The company makes extensive use of public-private partnership in the implementation of investment programs and projects. Today the main transshipment Russian power in the Black Sea is represented by three ports: Novorossiysk, Tuapse and Taman.

The port of Novorossiysk belongs to the "NCSP" group, the largest port operator in Russia and the third largest in Europe. It's transshipment capacity is 5.5 Mt per year. In 2012 the grain terminal of Novorossiysk plans to increase its storage capacity from 120 Mt to 160 Mt. The port of Novorossiysk supports Panamax and Supramax vessels. One of the biggest Russian grain terminal is based in the port of Tuapse. Its annual transshipment capacity is 2.5 Mt. The proper functioning of grain terminals depends on their flexibility in terms of receipt of goods road-rail-vessel. The Russian Black Sea grain terminals have not been fully utilized as the railway infrastructure was poorly developed and there has been a lack access roads to the ports. It is for this reason that the United Grain Company has begun construction of a new port infrastructure on the Taman Island that would be optimal in terms of logistics and location. The launch of the first transshipment facilities in the port of Taman will take place in 2016. By 2025 the transshipment facilities will make 65-90 Mt (all products). The total investment in the project is about 6.8 billion dollars. According to various estimates, by 2018 due to the activity of the port of Taman, the Ukraine will lose 18 Mt of cargo. This will comprise mostly exports to the countries of the Middle East and Mediterranean. Due to Russian investments, new grain terminals are also under construction in the Black Sea ports of Varna and Constanza.

Black Sea Grains and Arab Spring

Some observers believe that the withdrawal of Russia and Ukraine from the world markets (Ukraine is also significantly limited exports in 2010) was one of the causes of the beginning of the "Arab Spring". Despite the current efforts of the modernization strategy implementation the recent entry of Russia into the WTO will affect the recovery of the Russian market. Along with the positive aspects of WTO accession, there's an increased threat to Russian food security. Experts predict that the commitments to the WTO will have a negative impact on agricultural production in Russia. First of all the will be the reduction of state support for the industry with U.S. \$ 9 billion in 2012 to U.S. \$ 4.4 billion in 2018. Second, there will be a 30% reduced rate of import duty on all food produced in the territory of Russia. No doubt the above will have a negative impact on the export potential of Russian grain and may eventually result in yet another redistribution of forces in the world grain market.

Despite the background of internal and external political and economic challenges, as well as the growing geopolitical interest for Asian markets, the Middle East and the Mediterranean will continue to be a priority for Russian grain exports due to the historical past and ongoing intercultural dialogue. As a consequence of the growing political and economic instability, and thus future economic weakening, the Middle East and Mediterranean countries will be

interested in low prices for grain, the quality of which should still comply with local standards. And Russian grain fully meets this concept. Russia is not a Mediterranean country. However, its geopolitical and economic interests involve not only the Black Sea segment of the Greater Mediterranean. The country is interested in the stability of the sub-Mediterranean, as their problems are woven into a single geopolitical hub and any conflict in the Mediterranean could cause severe fluctuations in the political and economic climate in the countries neighbouring Russia. All this explains the intensification of the Mediterranean vector of Russia's foreign policy.

Returning to the Syrian conflict as an example of the economic interests of Russia, Syria once wanted to develop trade relations with the Customs Union, which unites Russia, Kazakhstan and Belarus, which in turn would help to strengthen the position of this Union in the geopolitical arena. It can contribute to explain Russia's position towards Syria as it has always protected the markets of partner countries.

Webography

- FranceAgriMer
- Arvalis
- UkrAgroConsult
- Ikar
- USWheatAssociates
- Russian Grain Union
- Ingosstrah
- VTI Johann Heinrich von Thunen Institut
- SGS
- RusAgroTrans
- World-Grain.com
- Reuters
- [www.oaoozk.com/United Grain Company](http://www.oaoozk.com/United-Grain-Company)





Les relations céréalières entre le Maroc et les pays de l'Amérique du Nord

Abdellah Aït El Cadi¹

Attaché de direction, Office national interprofessionnel des céréales et légumineuses (ONICL), Maroc

Etat des lieux de la céréaliculture marocaine

La filière céréalière, représentée essentiellement par le blé tendre, l'orge, le blé dur et le maïs, constitue l'ossature de l'agriculture marocaine. Par son rôle multiple, elle occupe une place déterminante dans l'économie du pays et ce, à plus d'un titre. Les céréales occupent 70% de la superficie agricole utile et participent, en fonction de la pluviométrie annuelle, pour 10 à 20% en moyenne dans le PIB agricole. De même, elles comptent pour beaucoup dans le déficit de la balance commerciale, représentant plus de 70% des importations agricoles. Ceci n'est guère étonnant car les céréales constituent l'aliment de base des marocains avec l'une des consommations globales de blés les plus élevées au monde. Elles absorbent près du quart des dépenses alimentaires des ménages, couvrent les deux-tiers des besoins en calories et 70% des besoins en protéines dans la ration alimentaire de la population (dont 70% constitué de blé tendre).

Le secteur céréalier: politique volontariste à résultats mitigés

Les politiques liées au secteur céréalier ont toujours été intégrées dans celles des produits sensibles. De par son caractère stratégique, ce secteur a constamment bénéficié d'une politique volontariste sur toute sa chaîne. Toutefois, compte tenu des aléas climatiques, le bilan de développement de ce secteur durant les 3 dernières décennies est relativement mitigé. L'amélioration de la production demeure en deçà des espérances. Les progrès enregistrés n'ont pas pu améliorer de façon significative la couverture des besoins et par conséquent d'infléchir de façon significative les importations. Sous l'effet conjugué de la croissance démographique et de l'urbanisation rapide, le taux de couverture des besoins par la production nationale stagne autour de 60% en moyenne. L'autosuffisance dans le domaine des céréales n'est plus un objectif recherché tant il semble peu réaliste.

Depuis 2008, le pays s'est doté d'une approche stratégique agricole globale dite « Plan Maroc Vert » (PMV). Cette stratégie novatrice vise à s'adapter aux multiples défis imposés au secteur, notamment en matière d'eau et d'investissement, en érigeant l'agriculture comme principal moteur de croissance de l'économie nationale. Ainsi, les objectifs visés par le contrat programme passé dans le cadre du PMV s'articulent autour de la réduction de l'ordre de 20% de la superficie céréalière, une amélioration de la productivité d'environ 50% pour une production céréalière de l'ordre de 7 millions de tonnes en année moyenne et une amélioration du taux de couverture des besoins par la production nationale.

La commercialisation et les importations des céréales sont librement exercées

Le commerce et les importations des céréales au Maroc sont régis par trois lois. D'abord, la loi n°12-94 qui consacre la libéralisation du commerce intérieur des céréales basée sur le retrait de l'Etat avec le maintien de son rôle d'assistance et de promotion. Ensuite, la loi n°13-89 qui consacre la libéralisation du commerce extérieur avec la transmission des signaux du marché mondial sur le marché intérieur sans perturber le marché intérieur (intégration progressive du marché national dans le marché mondial). Enfin, troisième loi, celle n° 06-99 concernant la liberté des prix et la concurrence. De par les dispositions de ces lois, le commerce des céréales et leur importation sont librement exercés. Toutes les opérations de commercialisation, d'importation et de transformation des céréales sont donc réalisées par des opérateurs privés.

¹ Les opinions exprimées dans cette contribution sont celles de son auteur

Toutefois, le blé tendre bénéficie d'un régime spécifique compte tenu des mécanismes de régulation dont il fait l'objet et de l'existence d'un contingent de farine de blé tendre subventionnée qui est destiné aux consommateurs les plus démunis. Le cadrage de ce régime est tracé par le contrat programme précité, qui a permis de définir des lignes rouges à ne pas franchir, à savoir la valorisation de la production nationale et sa protection au moment de la récolte. Ce régime est basé notamment sur la fixation, à la veille de chaque moisson, d'un prix formulaire² pour le blé tendre de production nationale et d'une protection douanière adéquate à la frontière. Ces deux mesures concourent à transmettre, en partie, les signaux du marché mondial sur le marché intérieur sans perturber ce dernier. Il y a lieu de souligner cependant que, compte tenu des dysfonctionnements que connaît le système actuel de subvention, des pistes de réforme sont à l'étude. Les principaux axes de cette réforme s'articulent autour de la rationalisation de la compensation par la mise en place de filets de sécurité sociale sous forme d'un package alternatif au profit des populations pauvres.

Des importations en perpétuelle augmentation

Le Maroc jouit d'un intérêt particulier de la part des principaux pays exportateurs, même si sa part dans le marché mondial des importations n'est que de 3%. Le volume des importations Marocaines évolue selon l'importance de la production nationale. Les quantités moyennes importées durant la période 2005-2012, tournent autour de 5,2 millions de tonnes (MT). Ces importations sont constituées de blé tendre à hauteur de 45%, de maïs à 30%, de blé dur à 13% et d'orge à 11%. Par origine, on constate une certaine spécialisation en fonction de la céréale importée. Le blé tendre provient ainsi d'une vingtaine de pays. La France en est le principal fournisseur, avec environ 58%. Ensuite, 11% proviennent des Etats-Unis, et le reste, soit 32%, proviennent des autres origines, avec notamment l'Argentine, l'Allemagne, la Suède, la Lituanie, l'Uruguay, la Pologne, le Brésil, le Royaume Uni et les pays de la mer Noire (Russie, Ukraine et Kazakhstan).

Pour le blé dur, 78% des importations sont d'origine canadienne, 9% viennent des Etats-Unis, 10% de la France et 3% du reste du monde. L'approvisionnement en orge s'effectue auprès d'une quinzaine de pays. Les principales origines sont la France (30%), l'Argentine (23%), le Brésil (15%) et l'Ukraine (11%). Ces quatre pays s'approprient donc 80% environ des importations marocaines pour cette céréale. D'autres pays viennent compléter la liste des fournisseurs (Ukraine, USA, Espagne, Argentine, Belgique et Russie). Pour le maïs, le Maroc importe 100% de ses besoins en maïs grain, soit presque 2 MT par an. Trois pays se partagent l'essentiel du volume des importations marocaines: l'Argentine (38%), les Etats-Unis (38%) et le Brésil (15%). Mais on trouve également dans la structure des pays fournisseurs du Maroc d'autres origines telles que la France, l'Ukraine, et le Canada. Il est très important de souligner pour le maïs que la demande marocaine est en pleine expansion compte tenu de l'augmentation de la consommation de viande blanche.

Relations avec les Etats-Unis et le Canada en matière d'importation des céréales

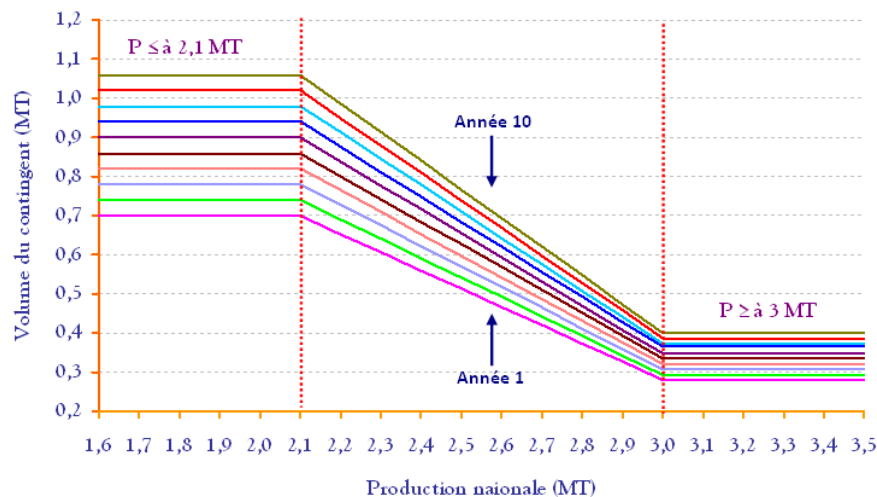
Contingents prévus par l'Accord de libre Echange avec les Etats-Unis

L'accord de Libre Echange (ALE) entre le Maroc et les Etats-Unis est entré en vigueur depuis le 1er janvier 2006. Pour le blé tendre, le Maroc a accordé à Washington un traitement préférentiel semblable à celui accordé à l'Union européenne (UE). Ce traitement concerne deux éléments à savoir la fixation d'un quota annuel indexé sur la production nationale et l'actualisation de la réduction tarifaire accordée sur le tarif douanier commun appliqué pour les autres origines. En ce qui concerne le calendrier d'exécution, il existe une différence de taille par rapport aux contingents UE. Il s'agit de l'année civile au lieu de la campagne agricole pour l'UE.

Pour le cas de blé tendre, les contingents accordés dans le cadre de l'ALE avec les Etats-Unis oscillent entre 280 000 tonnes métrique (TM) au minimum, et 700 000 TM au maximum. Les quotas d'importation devront toutefois augmenter pendant une période transitoire pour atteindre ceux convenus avec l'UE, soit entre 400 000 TM et 1,06 MT en 2015. La réduction tarifaire appliquée au blé tendre dans le cadre de ce contingent est de 38% sur les niveaux de droit de douane NPF. Elle est actualisée en fonction du tarif de base NPF selon la formule suivante : Réduction tarifaire (%) = [(135% - nouveau tarif de base (%)) * 0,275 + 38%]. Pour les importations hors quotas, elles sont régies par le tarif NPF.

² Prix de référence pour une qualité standard. Ce prix peut être, le cas échéant, majoré de bonification ou minoré de réfaction en fonction de la qualité.

Evolution du contingent du blé tendre US selon le niveau de la production nationale et par année civile



Pour le blé dur, un contingent de 250 000 TM est prévu par l'ALE au moment de son entrée en vigueur, avec une augmentation annuelle de 10 000 TM. Il est actuellement de 300 000 TM et il atteindra un volume de 340 000 TM en 2015, soit 67% des besoins actuels du Maroc pour ce produit. Pour le maïs, l'accord prévoit une exonération totale des droits de douane après une période de transition de six années. Durant cette période, une réduction immédiate de 50% sur les droits de douane est accordée dès la première année de l'entrée en vigueur de l'accord. Les 50% restants sont éliminés de manière égale pendant les cinq années qui ont suivi l'entrée en vigueur de l'accord. Pour l'orge, le tarif douanier appliqué est éliminé en tranches égales sur une période de 5 années pour l'orge de brasserie et de 15 ans pour les autres catégories d'orge.

Importations Marocaines des Etats-Unis

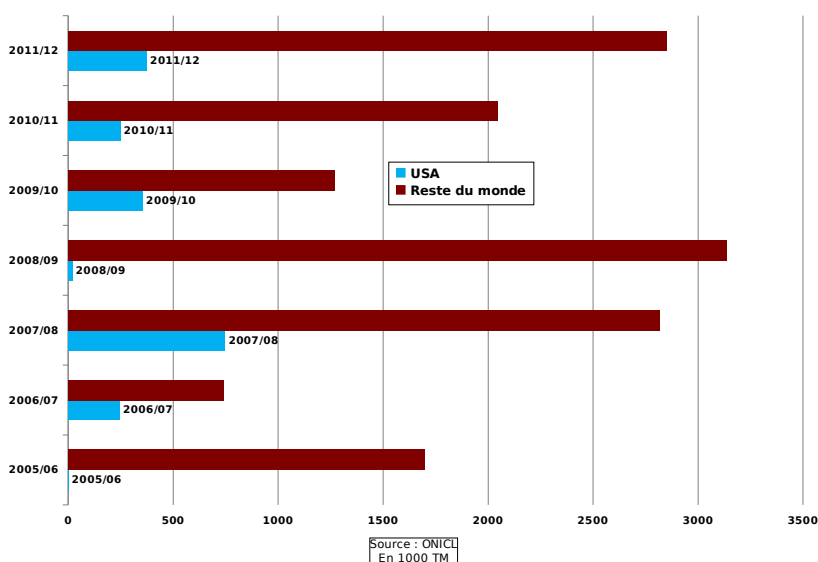
L'analyse des échanges de blés entre les Etats-Unis et le Maroc permet, en parallèle, de faire l'évaluation de mise en œuvre des contingents tarifaires préférentiels puisque depuis l'entrée en vigueur de l'ALE, exceptée pendant les périodes de suspension des droits de douane pour des raisons de conjoncture du marché mondial. La quasi-totalité des importations de blés en provenance des Etats-Unis est faite dans le cadre de cet accord.

La consolidation des importations de blé tendre en provenance des Etats-Unis (celles du contingent et celles importées hors contingents) fait ressortir que pendant les deux exercices coïncidant avec l'entrée en vigueur de l'accord, l'exécution des contingents a nettement amélioré le retour de cette origine sur le marché marocain. Les parts de blé tendre américain dans les importations marocaines lors de ces deux années sont de 25% et de 21% dont respectivement 92% et 23% importées dans le cadre du tarif préférentiel. Il est à souligner que le taux moyen d'expédition de cette origine sur le marché marocain n'était que de 7% pour la période 2002/2005.

En 2009/2010, le total des quantités américaines a été réalisé dans le cadre du contingent. En revanche, pour les exercices 2008/2009, l'instauration d'un système de franchise de douane et la non-compétitivité de l'origine américaine expliquent l'absence de cette origine dans les importations marocaines et le retour des importateurs marocains sur les origines traditionnelles. Si on se limite aux importations dans le cadre du contingent, les réalisations rejoignent dans leurs grandes lignes ce qui a été dit pour les importations consolidées, ce qui est tout à fait logique. Ainsi, en 2006, année d'entrée en vigueur de l'ALE, le taux de réalisation n'a pas dépassé 7% pour des raisons liées à la logistique de mise en place. En 2007, ce taux s'est nettement amélioré pour atteindre 51%. Pour 2008, aucune quantité n'a été importée dans le cadre préférentiel suite à la suspension des droits de douane pour contrer la flambée des cours mondiaux qui a eu lieu à partir de septembre 2007. En 2009, 17% uniquement de ce qui a été prévu comme contingent ont été réalisés pour des raisons liées à la réinstauration des droits de douane élevés suite à une récolte nationale record conjuguée à la non-compétitivité de l'origine américaine. En 2010, un taux de remplissage de 90%,

comparable à celui de l'UE, a été enregistré suite au retour des niveaux habituels des cours mondiaux ce qui a donné du dynamisme à l'origine américaine.

Evolution des importations consolidées de blé tendre par campagne en provenance des USA en comparaison à celles des autres origines pour la période 2005/2012.



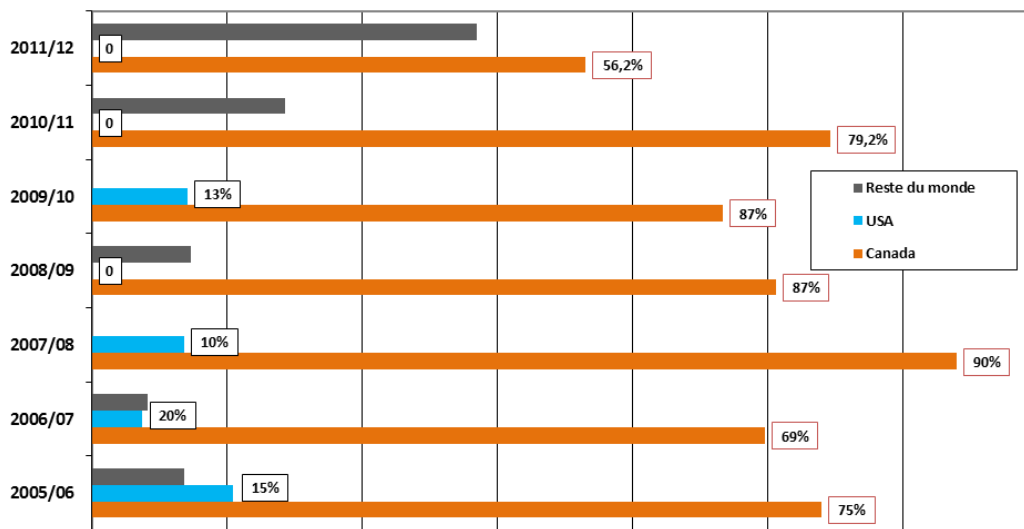
A titre de comparaison, le taux de réalisation des contingents UE entre 2004/2010 est en moyenne de 96% sauf pour 2007/2008 où les droits de douane ont été suspendus. La proximité géographique (taux de fret maritime moins cher) étant décisive pour le choix d'une origine. En conséquence, les expéditions du blé américain sur le marché marocain s'améliorent au moment où le marché mondial est à la baisse. Quand les prix augmentent, elles sont corrélées et le contingent n'a pas pu, à lui seul, protéger les flux commerciaux historiques de blé entre les deux pays. Ce flux semble être désavantagé par l'insuffisance de la compétitivité des blés américains essentiellement en termes de fret maritime à un moment où le contexte mondial est lui-même difficile. Une autre contrainte, qui n'est pas des moindres, handicape l'exécution des contingents de blé prévus dans l'ALE, à savoir l'adoption de l'année civile (1er janvier-31 décembre) comme référence de réalisation de ces contingents et qui pose problème au niveau de l'indexation du volume du contingent de blé tendre sur la production nationale, alors que l'accord avec l'UE s'est aligné sur le calendrier de campagne agricole adopté par le Maroc (juin à mai).

Dans le cas du blé dur, le contingent accordé par le Maroc aux Etats-Unis en 2006 dans le cadre de l'ALE est de 250 000 TM. Augmentant de 10 000 TM chaque année, il est donc de 310 000 TM pour 2012. Quant au tarif douanier, celui de la NPF subit une réduction de 25% pendant les 5 premières années de l'accord et les 75% restants le seraient pendant les 5 années suivantes. Pour les réalisations de blé dur en provenance des Etats-Unis, à l'exception des années 2006 et 2007 où les taux de réalisation ont été respectivement de 27% et de 30%, aucune quantité n'a été importée dans le cadre de tarif préférentiel par la suite. Les raisons de la non-exécution du contingent de blé dur sont presque les mêmes que pour le blé tendre.

Les données du graphique ci-dessus montrent que l'avantage du Canada est très net par rapport à ses concurrents puisqu'il constitue la source principale des importations marocaines en blé dur avec des taux de pénétration qui peuvent atteindre 90%. Ce quasi-monopole de l'origine canadienne pour la couverture des besoins marocains pour ce produit est expliqué d'une part, par le fait que le Canada est fondamentalement un preneur de prix sur le marché mondial du blé dur et d'autre part, par la préférence des importateurs au blé de qualité « CWAD », qui présente des caractéristiques recherchées par le consommateur marocain et l'industrie de la semoulerie. De son côté, la part des Etats-Unis oscille entre 6 et 20%. Le taux le plus élevé a été enregistré en 2006/2007, coïncidant avec l'entrée en vigueur de l'ALE, puisque 80% des arrivages ont été effectués dans le cadre de cet accord. Durant les deux dernières années aucune quantité n'a été en revanche importée des Etats-Unis. De même, les importations du Canada ont

enregistré une baisse importante durant la dernière campagne au profit de la France qui a pu exporter vers le Maroc plus de 2,6 MT (soit 40% des importations). La concession tarifaire accordée aux Etats-Unis pour ce produit a compensé cette année-là l'écart de prix avec les autres origines. Toutefois, par la suite, les effets escomptés de l'ALE et de l'avantage accordé au blé dur américain, dans le cadre du droit commun qui ne peut excéder 75%, sont limités en ce qui concerne l'amélioration du taux de l'origine américaine puisqu'ils n'ont pas pu compenser la non compétitivité de cette origine par rapport au blé canadien.

Evolution des importations marocaines annuelles en blé dur et parts des USA comparées à celles du Canada et du reste du monde



(source : ONICL)

Facteurs décisifs pour le choix d'une origine

Pour le choix d'une origine, les importateurs prennent en considération, toutes choses étant égales par ailleurs (fondamentaux du marché mondial, grades, taux en protéines, etc.), les différentes variables qui composent le prix de revient jusqu'au port de destination au Maroc, à savoir notamment le prix FOB, le coût du fret et le taux de change. Le prix minimum à l'achat est fondamental pour un importateur. En effet, les cours internationaux, notamment le prix FOB pratiqué pour une origine, constitue le facteur déterminant pour le choix de cette origine, puisqu'il est directement corrélé au prix de revient aux ports marocains. Le système de régulation à mettre en place, notamment en termes de droits de douane, dépend directement du niveau des prix FOB puisqu'il transmet presque à l'identique les signaux du marché mondial sur le marché domestique. Dans des situations internationales haussières où les cours dépassent un certain niveau, même le recours aux importations à taux préférentiels dans le cadre des accords de libre-échange ne permet pas de compenser cette augmentation et de ramener les prix de revient à des niveaux en adéquation avec les niveaux de prix ciblés à la consommation.

Pour ce qui est du fret maritime, il faut noter qu'auparavant le marché du fret a connu une certaine stabilité, sa part dans la formation du prix de revient était donc peu variable. Actuellement, avec l'envolée et la volatilité du marché du fret maritime, l'impact de ce paramètre est devenu essentiel dans la formation du prix de revient à l'importation. A titre d'exemple, il y a lieu de relever que l'écart entre les niveaux de fret « France/Maroc » et « US-Golf/Maroc » oscille entre 8 et 40\$/TM, ce qui avantage évidemment l'origine européenne. La lourdeur de la charge, découlant du fret, pèse fortement sur la compétitivité des origines géographiquement lointaines.

Pour ce qui est de la parité du Dollar avec le Dirham marocain (DH), il convient de noter que la monnaie du Royaume a enregistré ces dernières années des variations importantes de son cours, étant fortement impacté par la parité Euro/Dollar. A titre d'illustration, durant l'année 2010, la parité Dollar/DH a varié entre un minimum de 7,75 et un maximum de 9,17 DH. Cette volatilité affecte la position de tout importateur pour le choix de l'origine puisqu'elle lui fait supporter le risque de change sur sa marge commerciale.

A ces facteurs s'ajoute un autre élément qui devient de plus en plus décisif, à savoir l'émergence de nouvelles origines non-habituelles dans la structure des importations marocaines (Suède, Lituanie, République Tchèque, Russie, Ukraine, etc.) et dont les prix défient parfois la concurrence. D'ailleurs, l'analyse des importations marocaines par origine permet de relever une vingtaine d'origines qui font partie, soit du continent européen, soit du nord de l'Amérique. A titre d'exemple, les importations en provenance de la Russie et de l'Ukraine pour 2005/2006 ont représenté le tiers du total des importations en blé tendre. De même, la moyenne des importations de blé dur en provenance de la France pour la période 2005/2012 représente 11%, ce qui dénote une introduction progressive de cette origine sur le marché marocain aux dépens des deux origines habituelles Etats-Unis et Canada.

Un accord de libre-échange en préparation avec le Canada

Le Canada exporte invariablement depuis des années au Maroc des grandes quantités de blé dur. Ce produit représente plus de 90 % de la valeur des exportations de denrées agricoles canadiennes au Maroc. Le Maroc représente ainsi la troisième destination en importance pour le blé dur canadien dans le monde. Le Canada compte préserver ce privilège stratégique. A cet effet, il ambitionne de mettre en place avec le Maroc des mécanismes formalisés, qui devraient se rapprocher de ce qui a été fait avec les Etats-Unis et l'UE, et qui permettraient aux entreprises canadiennes de jouer sur un pied d'égalité avec leurs concurrents. Les préoccupations canadiennes quant à l'incidence des accords avec l'UE et les Etats-Unis portent sur leurs exportations, dont la capacité concurrentielle, sur un marché qui leur semble acquis, pourrait être menacée par des régimes préférentiels. Ces préoccupations ont non seulement trait à l'érosion possible de la part du Canada sur le marché marocain, mais également, à l'éventualité pour le Canada de perdre de l'influence quant à la participation et à la mise en place des règlements régissant le commerce international sur ce produit à l'avenir.

Au cours de la 7ème édition du Salon International de l'Agriculture au Maroc (SIAM), organisé en avril 2012 à Meknès, le Canada était l'invité d'honneur du Royaume. Au cours de cet événement, le Maroc et le Canada ont signé un protocole d'entente ayant pour objectif de promouvoir et d'encourager la coopération entre les deux pays dans les domaines d'intérêt commun, à commencer par l'agriculture, l'agroalimentaire et leurs secteurs connexes. Ce protocole s'inscrit en perspective de la conclusion d'un accord de libre-échange Canada-Maroc, qui se trouve en discussion depuis janvier 2009. En principe, les négociations devraient s'achever prochainement et l'accord pourrait être conclu à la fin de 2012 ou au début de 2013. Si le Canada prévoit à travers cet accord (qui serait d'ailleurs le premier du genre pour eux avec un pays africain) de consolider ses exportations vers le Maroc, notamment en blé dur et légumineuses, et d'accroître ainsi sa présence dans la région méditerranéenne, pour le Maroc, en revanche, l'accord représente un défi additionnel dans le processus d'ouverture progressive de son économie et de sa balance commerciale.

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Cereal Production and Agronomic Innovation in Turkey

Namuk Ergun, Sinan Aydođan, Ali Osman Sari

Ministry of Food Agriculture and Livestock
General Directorate of Agricultural Research and Policies, Turkey

Turkey is the meeting place of three phytogeographical regions: Euro-Siberian, Mediterranean and Irano-Turanian. Different climatic and ecological conditions result in rich biological diversity. There are around 12.476 plant taxa and 4.080 of them are endemics. That richness also reflects itself in agricultural innovations and productions. Therefore, agriculture keeps its importance in national economy, since Turkey is still an agricultural country, due to its economical structure. In terms of agricultural income, Turkey is the first country in Europe and the seventh in the world. The total amount of arable land is about 25 millions of hectares. It is estimated that irrigated lands now represent 5.2 millions of hectares, knowing that this surface can be doubled (Table 1).

Table 1: Use of agricultural land in Turkey

Use of land	Size Mill. ha	
Forest		21,00
Agricultural land		24,50
	<i>Field crops</i>	17,30
	<i>Horticultural crops</i>	3,20
	<i>Follow area</i>	4,00
Pasture land		12,40
Irrigated area		5,20

Most land is used for field crops, especially for cereal production. Wheat, barley and maize are prominent crops among cereals. With around 11 million of hectares, wheat and barley occupy almost half of the total crop production area of Turkey (Table 2). Besides wheat, barley and maize, rice is one of the other most important cereals of Turkey. But while the production areas of wheat and barley significantly declined during the past decade, the areas of rice increased considerably reaching 99.383 ha after having been of 58.000 ha 10 years sooner (Table 2). The increase in production area devoted to maize was also noticeable even lower. While harvested area for maize increased 5.53%, grain production increased 82.61% at the same period.

Table 2: Harvested areas and production of wheat, barley, rice and maize for 2000 and 2011

	Years	Wheat	Barley	Rice	Maize
Harvested area		<i>Mill. Ha</i>			
	2000	9,400	3629	0,058	0,555
	2011	8,063	2855893	0,099	0,586
	Change (%)	-14,230	-21,3	71,350	5,530
Production		<i>Mill. tons</i>			
	2000	21,010	8	0,350	2,300
	2011	21,800	7,6	0,900	4,200
	Change (%)	3,760	-5	157,140	82,610

Although production areas of wheat and barley decreased 14.23% and 21.30%, respectively, the volumes of the four main cereals substantially increased within last 10 years. There are some important factors affecting innovation and production of cereals. We are going to evocate them briefly here.

New developed varieties and subsidies

The research has provided new cultivars having higher yield and quality fulfilling demands of industry and market. High yielding new commercial varieties have played a very important role in production increase. Yield increases have reached around 25% for wheat and barley, 50% for rice and 73% for maize varieties in Turkey within last 10 years (Table 3).

Table 3: Yields of wheat, barley, rice and maize from 2000 to 2011

Years	Wheat	Barley	Rice	Maize
	<i>Kg/ha</i>			
2000	2235	2205	6035	4144
2011	2785	2775	9060	7170
Change (%)	24,61	25,85	50,12	73,02

Recently released wheat varieties, Tosunbey, Selimiye and Eminbey, are good examples of success of Turkish breeders for high quality and yield. These high quality varieties have higher purchasing prices than other similar varieties in the market. On the other hand, both the public research institutions and private sector developed many malting and feed barley cultivars having high quality, especially for protein rate. The increase in production of cereals is also due to subsidies to inputs. The role of these subsidies was particularly clear in the case of rice production that doubled as said previously, even if the utilization of new high-yielding varieties and the use of quality certified seeds contributed also significantly to Turkey's rice production. The yield of rice increased from 6 tons to 9 tons within last 12 years (Table 3). Turkey's maize production was about 2,3 millions of tons in 2000. Maize grain yield raised 73% during the last decade. Therefore, total maize production of Turkey reached 4,2 million tons in 2011.

The development of wheat and barley cultivars had been largely conducted by public research institutes until the beginning of 2000. Cultivars existed in national variety list and ongoing seed production and distribution before 21st Century, the vast majority of registered varieties are developed by public research institutes.

Released legislations in mid 2000's have played a key role in the increase of number and use of high yielding and quality new developed varieties. The Law No. 5042 "Law on the Protection of the Rights of Breeders of New Plant Varieties" and short named "Breeder's Rights Act" was released in 2004 and the Law No. 5553 "Seed Law" in 2006. In addition, the use of certified seeds and certified seed productions of the private sector has been subjected to subsidization since 2005 and 2008, respectively. After this statutory regulations and subsidies, the number of registered or production permitted varieties, both by private sector and public research institutes, have doubled in barley and more than tripled in wheat. As a result, half of the varieties available in the national list were developed after 2006 (Table 4).

Table 4: *The number of registered and production permitted wheat, barley, rice and maize varieties in the national variety list over sectors and years*

Crop	Sector	Years					Total
		1963-1990	1991-1995	1996-2000	2001-2005	2006-2012	
Wheat	Public	15	16	44	38	28	141
	Private	0	0	2	10	76	88
	University	0	0	1	5	2	8
	Total	15	16	47	53	88	237
Barley	Public	6	5	13	8	9	41
	Private	0	0	1	6	20	27
	University	0	0	0	0	1	1
	Total	6	5	14	14	30	69
Rice	Public	2	0	4	9	12	27
	Private	0	0	0	2	0	2
	University	0	0	0	0	0	0
	Total	2	0	4	11	12	29
Maize	Public	5	1	11	17	18	52
	Private	0	9	29	62	377	477
	University	0	0	0	0	0	0
	Total	5	10	40	79	395	529

The share of private companies for registered varieties rapidly increased for both wheat and barley after 2006, following the two important legislations released (Table 4). However, the effect of legislations does not reflect on registered rice varieties considering private sector. In maize, unlike wheat, barley and paddy rice, the private sector has a higher rate on the developed and registered varieties and parental lines especially after 1990. The private sector is very dominant in releasing new maize varieties and inbred lines especially after 2006 as usual for cross pollinated crops.

Drought and disease tolerance

Climate change is among the most important factors threatening food security in the World. Turkey is getting necessary precautions to mitigate the effect of envisaged droughts. In this regard, the Ministry of Food, Agriculture and Livestock (MFAL) established a "Drought Test Center" in 2010 at the Konya Bahri Dağdaş International Agricultural Research Institute. The aim of this Center is to determine the degree of drought tolerance in existing varieties, to develop drought tolerant genetic material to be used for the development of new varieties and breeding, especially for wheat.

Certified seed production and subsidies

MFAL has encouraged the use of certified seeds since 2005 by the means of subsidization. Producers had a total of 123.7 Million US Dollar (USD) subsidies by the end of 2011 for using certified seeds. Private sector has taken subsidies for their certified seed production since 2008. 25.6 Million USD have been paid to certified seed producing companies by the end of 2011. Private companies did not deal with the production of self-pollinated cereals such as wheat and barley until the application of subsidies on seed production and the use of certified seeds. After that, all those incentives have attracted the attention of private companies to certified seed production of self-pollinated crops.

Today, the seed industry has become an inarguable and essential source of innovation and efficiency in terms of providing food safety for the gradually increasing population and implementing modern agricultural techniques. Certified seed production of wheat was 116.083 tons in 2000 and increased to 410.766 tons in 2011. Similar trends were also observed for barley, maize and rice. The share of the private sector in seed production of cereals increased substantially during the last 12 years (Table 5).

Table 5: *Certified cereal seed production and share of sectors in 2000 and 2011*

Years	Sector	Wheat		Barley		Maize	
		Ton	Share (%)	Ton	Share(%)	Ton	%
2000	Public	100369	86,5	16650	86,7	16	0,1
	Private	15714	13,5	2553	13,3	11960	99,9
	Total	116083		19203		11976	
2011	Public	185974	45,3	20714	42,8	19	0,1
	Private	224792	54,7	27687	57,2	31319	99,9
	Total	410766		48401		31338	

Consequently, the number of new cultivars, their use and the production of certified seeds have increased dramatically in Turkey resulting in three times more cereal production last decade than before.

Subsidies for Agriculture Mechanization

The Machinery and Equipment Support Project (MESP) under the Rural Development Investment Program (RDISP) was implemented to develop the use of updated machinery and equipment in agricultural production since 2007. The cost of the new brand machinery and equipment was subsidized 50% as a grant by MESP. The demand towards subsidized equipment sharply increased and as a result production of them significantly increased from the year 2000 to 2010 (Table 6). The highest increase in production was for stalk shredding machine with 6.930% from 2000 to 2010.

Table 6: **The changes in the production numbers of subsidized machinery within 10 years.**

Type of machinery	Years	
	2000	2010
	<i>Number of produced machinery</i>	
Bail Machine	72	2,298
Hand tractor	3,036	18,831
Beet harvesting machinery	441	1,620
Pneumatic row sowing machine	473	530
Pneumatic single grain sowing machine	215	12,610
Stalk shredding machine	332	23,006

Under MESP, 78.124 pieces of machinery and equipment projects are subsidized. In addition, MFAL subsidized the effective water using irrigation investments such as drip and spring irrigation systems throughout five years payable interest free loans or 50% investment grant. Total 161.000 producers used 865 Million USD loan or grant since 2007 and 360.000 ha land went under drip or spring irrigation. All those incentives for inputs also contributed to the increase of cereal production.

Change in marketing strategies

Turkish Grain Board (TMO) started to purchase wheat according to the protein content in 2011. The new protein-based purchasing policy led farmers to use certified seeds all over Turkey. As mentioned above, MFAL is making a great effort to ensure food security not only for the country, but also for the region and the whole world. In those respects many kinds of instruments (policy, research, subsidies, marketing...) have been involved to improve yield and quality for securing food, increasing the income of people and providing better living conditions.

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INTERVIEW

Didier Nedelec

Directeur Marchés des grains, Union InVivo, France

Pouvez-vous nous décrire les missions du groupe InVivo et nous préciser quelles sont les actions développées par celui-ci en direction du Bassin méditerranéen ?

InVivo est l'émanation des coopératives agricoles françaises. Sa première mission est donc de créer de la valeur pour ses coopératives sociétaires dans quatre métiers historiques principaux : l'agrofourniture, l'alimentation animale, le commerce des grains et la distribution au grand public, spécialement dans la jardinerie. Le contexte mondial de forte croissance de la demande exacerbe le défi qui nous est lancé : produire plus, en respectant davantage l'environnement et en renforçant l'efficacité économique des acteurs des filières agricoles.

InVivo, premier exportateur de céréales françaises vers les pays tiers, est naturellement devenu un partenaire de premier plan des pays du Maghreb qui constituent notre première zone de chalandise. De liens purement commerciaux, nous évoluons vers des partenariats plus ou moins formels et aboutis. L'OAIC, l'organisme d'état algérien qui achète l'essentiel du blé importé par ce pays, nous a par exemple sollicités pour participer à ses réflexions sur la structuration des filières agricoles, sur une meilleure compréhension des marchés. Nous avons participé à la réalisation d'un terminal céréalier à Jorf au Maroc. Plus au sud, de fructueuses synergies naissent entre nos activités de négoce et d'alimentation animale.

Quelles sont les principales transformations du métier de commerce des grains depuis quelques années et comment celui-ci peut-il évoluer à court et moyen-terme ?

Jusqu'au début des années 1990, les marchés céréaliers mondiaux ont fonctionné sur la lancée des années 1970. La décennie qui suit voit se télescoper plusieurs bouleversements. D'abord, l'explosion de l'empire soviétique et la dilution ou la disparition des monopoles étatiques d'exportation comme d'importation partout dans le monde conduisent à un marché beaucoup plus atomisé - et plus difficile à suivre. Ensuite, vivant sur les acquis de la révolution verte, la planète consomme davantage de céréales qu'elle n'en produit depuis le début des années 1980 ; il faut attendre vingt ans pour que les opérateurs en prennent conscience, ce qui déclenche depuis lors une succession de « crises » qui révèlent des déséquilibres beaucoup plus anciens. Nul n'a voulu voir venir ce phénomène : les prix sont restés bas, les investissements ont fui le secteur agricole. Logiquement, le réveil est douloureux. Dans le même temps, les investisseurs financiers en quête de diversification de leurs risques ont jeté leur dévolu sur les commodités agricoles ; d'autant plus que les crises successives ont infusé une instabilité des prix plutôt sympathique pour certains opérateurs qui pratiquent la pure spéculation, sans aucun état d'âme. Ces nouveaux acteurs ont aussi bénéficié à l'agriculture, en particulier en donnant davantage de fluidité aux marchés. En quelques années, plusieurs secousses ont révélé à chacun que l'équilibre entre la production et la consommation est précaire, que les nouveaux modes alimentaires, en Asie mais aussi en Afrique, accroissent les besoins en fourrages pour les animaux, que les biocarburants ne sont pas neutres dans l'explosion de la demande. Il règne donc davantage de tensions, les facteurs externes à l'agriculture sont plus nombreux. Et l'on perçoit bien que les grands opérateurs mondiaux ont compris qu'il importait désormais de maîtriser l'offre, c'est-à-dire l'origine de la filière et sinon la production, du moins la collecte.

Quel est votre analyse des enjeux alimentaires et céréaliers en Méditerranée ?

Il est assez clair que le potentiel pédoclimatique du sud de la Méditerranée ne permet pas à cette région de prétendre déceimment à l'autosuffisance alimentaire et que le réchauffement climatique ne va pas conduire à une amélioration de la situation. La complémentarité entre les pays du nord et du sud de cette mer semble alors une évidence. Il s'agit d'éviter la chausse-trappe qui consiste à imaginer que l'Europe peut nourrir, sinon la planète, du moins le continent Africain. Quand on parle de complémentarité, que sous-entend-on ? Nous parlons de production naturellement : l'Europe dispose de sols, d'un climat et d'hommes qui permettent de produire beaucoup mais qui permettent surtout de produire de façon constante. Voilà le point essentiel : une catastrophe en France, ce sont des rendements qui fondent de 15 % tandis qu'en Russie par exemple, la production est divisée par deux ! Cela signifie que les pays européens sont quasiment toujours présents. Mais certes pas suffisants pour assurer tous les besoins d'un continent. L'Europe possède un savoir-faire, une expérience, une histoire qui peuvent et doivent être partagés. Et nous disons bien « partagés » ; certes pas imposés !... On a exagérément tendance à traiter l'agriculture à coup de chiffres, moyennes et ratios mondiaux. Or derrière chaque tonne produite, il y a des hommes et des femmes qui, particulièrement dans les pays circumméditerranéens, structurent encore fortement les sociétés. Chaque fois qu'un agriculteur quitte ses terres parce qu'il ne peut plus vivre de son métier, c'est une production qui disparaît, c'est une ville qui s'agrandit et des importations qui grandissent.

Pour faire face à la volatilité des prix et améliorer la sécurité alimentaire, la question des stockages est souvent évoquée ? Qu'en pensez-vous ? Comment progresser en Méditerranée dans ce domaine ?

Le stockage est un sujet à la mode, à croire que c'est la panacée. Il convient avant tout de rappeler que construire du stockage ne crée point de ressource miraculeusement ! Pour remplir des silos, encore faut-il que la production soit supérieure à la consommation... ce qui n'est plus le cas depuis une trentaine d'années. L'autre point essentiel, c'est que le stockage est une activité dynamique et non pas statique, qu'il ne se réduit pas à une boîte : c'est un métier spécifique, c'est un maillon déterminant dans la fluidité du marché, qui permet d'améliorer l'adéquation qualitative et quantitative entre l'offre et la demande. Cette formulation est puissante : elle associe une vision économique très classique alla Ricardo avec une approche interventionniste, keynésienne si l'on veut. Un stockage intelligent permet au marché de mieux fonctionner donc aux individus de mieux se nourrir et de gagner davantage ; or ce stockage intelligent a peu de chances d'émerger sans une initiative forte de l'État.

Un stockage mieux adapté est donc un moyen d'éviter certains accidents qui se traduisent par des fluctuations dangereuses et inutiles des prix. C'est aussi un moyen de stimuler la production : combien d'agriculteurs s'autolimitent pour la simple raison qu'autour d'eux, les moyens de stockage sont saturés ? Il est important de souligner que, sans nier qu'il arrive que certains acteurs accentuent la fluctuation et la volatilité des prix, le moteur profond de ces mouvements, c'est le déséquilibre entre l'offre et la demande. Il existe un déséquilibre planétaire depuis des lustres : nous consommons davantage de céréales que nous n'en produisons. Et il existe des déséquilibres régionaux, locaux ; il peut s'agir de troubles sociaux-politiques bien sûr ; mais trop souvent aussi d'une inadéquation des différents maillons de la filière au nouveau contexte de production et de consommation.

Comment la France peut-elle exprimer son potentiel céréalier en direction des marchés méditerranéens dans une approche de coopération innovante et de co-développement ?

Peut-être la première chose à dire est que nous ne savons pas a priori ce qu'il convient de faire ! Les collaborateurs comme les partenaires d'InVivo constatent chaque jour qu'il faut en permanence réinventer l'agriculture. Ce qui paraissait évident hier peut être fermement condamné ou obsolète aujourd'hui. La question n'est donc pas de mettre en œuvre des solutions connues mais de découvrir ensemble comment progresser. De surcroît, il ne s'agit pas d'une bonne action à la mode mais d'une nécessité et d'un devoir historique. Réfléchit-on jusqu'au bout à ce que seraient les conséquences d'une pénurie alimentaire réelle sur l'autre rive de la Méditerranée ? C'est donc toute la filière, « du champ jusqu'à l'assiette », qui doit être examinée et reconstruite, en profitant des formidables initiatives qui ont eu lieu chez nous – et en tenant compte aussi des erreurs que nous avons commises. Chez InVivo, nous sommes profondément convaincus de l'efficacité du modèle qui a su combiner l'impulsion et la stratégie de l'État avec le dynamisme des hommes et de leurs coopératives qui permettent de mutualiser intelligemment les risques comme les réussites.



9th National Conference on Biodiversity and Regional Law on Ancient Olive Groves

The 9th Italian National Conference on Biodiversity took place from 6 to 7 September 2012 in MAI Bari. The Conference constituted a good opportunity to focus on the new guidelines of the sector-specific policy in the light of the national and international scenarios outlined by the National Strategy on Biological Diversity, the implementation of the National Strategy for Agricultural Biodiversity and the new Common Agricultural Policy. The meeting has focused on the theme of biodiversity in the different but complementary areas of natural and genetic resources, land planning and its relationship with agriculture so as to favor the dialogue between institutions and research to contribute to target research and stimulate an appropriate response to the needs resulting from scenarios analyses. A great deal of attention has also been given to the relation between biodiversity, food and health with reference to the existing link between food, identity, health, sustainable diets, territory, Mediterranean Diet and enhancement of typical products. The first day ended with a short ceremony in the memory of Prof. Gian Tommaso Scarascia Mugnozza, a great scientist who has devoted his academic life to the development of agriculture as a means to protect natural resources and human needs. The second day focused on the analysis of the context related to the interaction between natural resources, land planning and the relationship with agriculture in the light of the new CAP. The 9th National Conference on Biodiversity was organized by MAI Bari and the CIGM (Inter-university Centre for Research, Conservation and Utilization of Mediterranean Germplasm) involving the Universities of Bari, Lecce, Foggia, Basilicata, Sassari, Palermo, Catania, Reggio Calabria, with the scientific support of different University branches of CRA, CNR and a large number of national research bodies. Other related issue, the results of the CENTOLIMED (LIFE07 NAT/IT/00450) has led to the Regional law N° 1331 on ancient olive groves, issued by Apulia Government.

World Food Day - Cooperation and Sustainability to Feed the World

"The primary goal of mankind is to avail of increasing amounts of high quality food; consequently, the fate of humans is linked to the growth of agricultural production. Arable lands are limited, water is more valuable than oil, the biological equilibrium is at risk and the climate change is increasingly challenging. Disseminating and sharing scientific knowledge can provide solutions to the new emergencies through a sound exploitation of resources, the development and testing of techniques for the adaptation of plants to dry or saline soils, and by increasing production". These are some of the remarks raised by Cosimo Lacirignola, director of MAI-Bari, during the conference on "Cooperation and Sustainability to Feed the World", that took place at MAIB on the occasion of the World Food Day. The system of food production, supply and consumption does not seem capable to match the current and future human needs since it strongly depends on the use of fossil fuel, chemicals, energy inputs, long-distance transport and low-cost labor force. Such a system generates large amounts of greenhouse gases and contributes to profound alterations of ecosystems (biodiversity, erosion, deforestation, chemical contamination, water shortage).

The event was attended by the Lebanese Minister of the Environment, Nazem El Khoury, who underlined the strong link between his country and Italy, especially with MAI-Bari, taking into account the large number of shared projects; the Labor Policy, Economic Development, University and Research Councilor from the Municipality of Milan, Cristina Tajani who extended the greetings on behalf of the Mayor of Milan, Giuliano Pisapia, and reminded that Milan will host the Universal Exhibition in 2015 whose main theme is of outstanding relevance at this moment: Feeding the Planet: Energy for life, "an event that is catalyzing most of our administrative efforts", as stated by Cristina Tajani. "During six months, Milan will become a laboratory of practices and policies on issues relating to food and sustainability. This is why we do welcome the precious collaboration with the Mediterranean Agronomic Institute, which, together with the Polytechnical University of Milan and the company Expo, is already preparing a project entitled Feeding Knowledge", she added. "Feeding Knowledge" is an international network on innovation and research on food safety. Thanks to this project, Milan and the whole country will thus have a platform of exchange and confrontation on issues such as nutrition and sustainable cropping in the Mediterranean countries.



Chania and MAICh: a blessed town that magnetises the scientific community

The COST1106 conference took place on 1-3 October 2012 in Chania on the subject of "A complete approach system for the determination of the development mechanisms for quality control of tomato and grape", in which 56 researchers from 21 countries participated. COST1106 is a 4-year program which began 26/4/2012, finishing 25/4/2016, headed by the acclaimed French scientist Mondher Bouzayen who has many years of experience in the field of post-harvest preservation. The conference was organized by the MAI-Chania (MAICh), a highly esteemed institution in the eyes of the local community, valued for its services to producers and consumers.

It is a well known fact that people's daily intake of fruit and vegetables is constantly increasing with significant benefits to human health, with a direct result in the need to understand the mechanisms and stages related to the nutritional and organoleptic value of fresh products. Given that the genetic code of both tomato and vineyard grape are already known, we have before us the gene puzzle that allows us to study the possible combinations/changes that may take place in order to complete the 'sketch' of the tomato and grape seed.

Amidst the conference events, participants were also able to explore the ancient town of Chania, inhabited continuously for over 5,550 years until the present day, as they were guided through the narrow streets of its old town by the Venetian harbor, where they had the opportunity to taste Cretan cuisine including raki (the local distilled spirit), and sense the hospitality of the locals. It should be noted that such conferences are to take place annually in a different country but it was unanimously decided that for the next year, the conference will once again take place in the "beautiful Chania" (as the Chairman Mr Bouzayen stated) at the MAICh Conference Centre". As a participant mentioned, "by chance... I don't think so".

133rd EAAE Seminar in June 2013

The European Association of Agricultural Economists (EAAE) and the MAI-Chania are organizing the 133rd EAAE Seminar on "Developing Integrated and Reliable Modeling Tools for Agricultural and Environmental Policy Analysis", to be held in Chania on June 15 and 16, 2013. Over the last years, several methods and analytical tools have been developed for policy analysis using various sets of data. Such methods have been based on integrated approaches in an effort to investigate key issues such as levels of agricultural and non-agricultural output, land use and incomes, natural resource use, structural change and the viability of family farms, and have thus attempted to offer a powerful environment for decision making, particularly in an era of radical change for both agriculture and the wider economy. The objective of the seminar is to address topics associated with the utilization of micro- and macro-level agricultural data to the development of coherent and reliable modeling tools dealing with the policy analysis of complex rural and environmental conditions. The seminar will bring together economists, modelers, agricultural and environmental economists, and policy analysts, in order to discuss and assess new modeling tools in analyzing the farmer's behavior in a continuously changing market and policy environment.



Séminaire de clôture : « Renforcement des capacités de l'Université d'Addis Abeba au service du développement »

Ce projet de coopération franco-éthiopien (Projet FSP 2006-17) est coordonné par l'IAM-Montpellier pour le volet sécurité alimentaire et par le Center of Development Studies. Trois autres volets existent : l'un porte sur l'eau (coordination par l'IRD Kenya), l'autre sur la croissance urbaine (coordination par l'EHESS) et enfin le dernier porte sur les TIC (coordination par le CEPPEL). Le volet sécurité alimentaire, dont l'IAM Montpellier assure le pilotage, associe sept facultés de l'Université d'Addis-Abeba (UAA) : en droit, sciences sociales, sciences vétérinaires, technologie alimentaire, anthropologie, nutrition et sciences économiques. Il est arrivé à son terme après 5 ans d'active collaboration. Le séminaire final de restitution a eu lieu à Addis-Abeba le 6 novembre 2012 devant les bailleurs de fonds et les parties prenantes. En 5 ans, ce projet a permis de créer un nouveau Master Professionnel et Recherche à l'UAA, ouvert à la Corne de l'Afrique, sur le thème de la sécurité alimentaire. La quatrième promotion d'étudiants (à raison de 20 à 25 personnes par année) a commencé les enseignements en octobre 2012. Les étudiants sont issus des services publics de gestion de la sécurité alimentaire, des organismes internationaux ou encore des ONG. Deux doctorants sont accueillis au sein de la plate-forme doctorale de l'IAM-Montpellier et font un séjour scientifique de 6 mois par an en France financé par l'ambassade de France en Ethiopie. L'UAA et l'IAM-Montpellier, avec l'appui de l'Ambassade de France, souhaitent poursuivre cette collaboration dans le cadre d'un projet commun de recherche sur la sécurité alimentaire, à construire en 2013.

Pour plus d'informations, contacter : padilla@iamm.fr

MicroMegs : Biodiversité et savoirs locaux en Méditerranée

Le projet MicroMegs, lancé en octobre 2011 pour une durée de deux ans, a pour objectifs d'identifier les savoir faire et les modes de production locaux tout en soutenant les échanges dans des bassins situés dans deux pays différents (Maroc et France). Il vise également à créer des passerelles entre des lieux pilotes pour créer des conditions de réciprocité et d'autonomie écologique et sociale. L'approche est interdisciplinaire : les méthodes classiques de sciences écologiques et sociales procèdent par observations, distinctions, expérimentations et formalisations des objets et des savoir faire ; elles sont couplées à une approche comparative expérimentale pour identifier la manière de renforcer les relations entre des groupes locaux situés dans la réserve de biosphère du Moyen Atlas et le Parc Régional du Haut Languedoc aux portes de la Méditerranée. La phase d'identification est réalisée par les réseaux de recherche, de formation-action et les travaux d'études. Il s'agit de caractériser les formes d'organisations stratégiques facilitant des comportements d'adaptation et de transmission inter et intra-générationnelle des savoirs faire. Pour mener à bien l'identification de ces formes d'organisation créatives fondées sur des qualités spécifiques diverses, le travail se focalise sur des interfaces producteurs/consommateurs situés sur les territoires du Sud-Ouest de la France et du Maroc. Une deuxième phase consiste à hiérarchiser ces formes d'organisation avec les outils des sciences écologiques et sociales tout en accordant de la place aux arts pour les interpréter. Les pratiques des arts encouragent les démarches réflexives de co-construction et d'échanges sont non hiérarchisées. Elles dynamisent les restitutions qui portent en particulier sur le statut des savoirs liés aux plantes aromatiques et médicinales (PAM) : le statut de l'herboristerie, de la traçabilité des PAM ou encore de l'aptitude à répondre aux normes d'écotoxicité constituent quelques uns des points névralgiques qui conditionnent les modes de transmission des savoirs « dits » traditionnels. Des étudiants en Master de l'IAM-Montpellier et de l'IAV Hassan II au Maroc contribuent à ces analyses. Le financement ce projet est assuré par la Fondation d'entreprise Hermès.

Pour plus d'informations, contacter : ilbert@iamm.fr



International Seminar on the Olive sector

MAI Zaragoza and the International Olive Council (IOC) organised the International Seminar on "Present and future of the Mediterranean olive sector" from 26 to 28 November 2012. This was one of the events to celebrate the CIHEAM 50th anniversary, and it aimed to prospect the future of the olive sector in the Mediterranean and the world. Invited speakers and participants coming from public administrations, the private sector, and the research community discussed the key questions for the sustainability and growth of the sector, such as the role and future of intensive and traditional production systems, the improvement of processing technologies in a high-quality demand environment, the prospects of olive products for the nutraceutical industry, or the opportunities and challenges for opening new markets or increasing the commercial share in consolidated markets.

More information on www.iamz.ciheam.org/ciheam-ioc2012

Dewfora workshop on drought early warning and forecasting in Morocco

A workshop in the framework of the FP7 Dewfora project (Improved Drought Early Warning and Forecasting to strengthen preparedness and adaptation to drought in Africa) was held in Rabat (Morocco), on 7-8 November 2012. This workshop, organised by IAV Hassan II and MAI Zaragoza, had the objective to present and discuss with stakeholders one of the project products which consists in a case study that is being carried in the Moroccan Oum Er Rbia Basin applying methodologies and tools proposed and developed by Dewfora. The case study aims to design at the basin level a drought early warning system including drought forecasting and monitoring and to assess and map the vulnerability to drought of the agricultural sector of the basin.

A total of 39 people attended the workshop: public officers from Moroccan Central and Provincial administrations as well as from the basin and irrigation district administrations, representatives of agricultural unions, members of the project team and also representatives from Algeria and Tunisia in order to spread the Dewfora project works in these two countries. Presentations by the scientific team of Dewfora were followed by general discussions and working groups, and conclusions were drawn that were used as feedback to the case study from the point of view of the needs and aims of the agricultural sector towards drought early warning and adaptation.

More information on <http://www.dewfora.net>

Information on Training

A total of 140 students are following the eight Master of Science programmes offered by IAMZ alone or in collaboration with eight Spanish Universities for the Academic year 2012/13. 109 of them come from twelve CIHEAM member countries and the rest from 20 different countries.



Latest publications on www.ciheam.org

CIHEAM 50th Anniversary

CIHEAM, A Mediterranean Story (1962-2012), Ideaprint, Bari (Italy) December 2012 (French and English version)

Briefing Notes

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Enhancing Research in the Mediterranean Area, n°21, June 2012 (Arabic Version)

Education in the Mediterranean: Trends and Challenges in the Mediterranean Area, n°22, September 2012 (Arabic Version)

NewMedit

Summary of 03/2012 issue of the review, October 2012

CIHEAM Online Statistics

CIHEAM Series of statistics: Agriculture and Food in the Mediterranean Countries, Coordinated by Matthieu Brun, December 2012

Currents events in Euro-Mediterranean Agriculture, Food and Environment

Press Review, November 2012

Press Review, October 2012

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