

2.8

AGRICULTURE



The European Commission's 2010 report on agriculture in the EU highlights that the sector's income increased by 6.1 percentage points in comparison with the previous year. However, according to this report, the overall situation in 2010 was just below the level recorded in 2005. Therefore, when viewed from a conventional perspective, the sector has stagnated, subject to the opportunities, particularly in a country like Spain, associated with the new focus on mainstreaming environmental and territorial issues into the Common Agricultural Policy (CAP). Spain has the second-largest area of land under cultivation in Europe and its agricultural GVA, at basic prices, is the third-highest in the EU-27, behind Italy and France. Spain also contributes the largest area to Europe's Natura 2000 network.

The need for reform is not just driven by the general economic situation or by other wider factors, such as the high price of inputs, product price instability or adverse meteorological conditions, but also by the guidelines set by the CAP that, despite the recent reform (Health Check of the CAP, published in May 2008), needs to be reviewed in the context of the global financial crisis, as was expressed by stakeholders in the public consultation process concluded in mid-2010.

Consequently, the European Union has considered it necessary to make further reforms, as stated in



INDICATOR	GOAL	TREND
Fertiliser consumption	Reduce fertiliser consumption	Fertiliser consumption fell for the second consecutive year
Phytosanitary product consumption	Reduce phytosanitary product consumption	In 2009, phytosanitary product consumption decreased notably
Organic farming	Increase the proportion of organic farmland to total farmland	Spain has the most organic farmland of any EU country
Organic livestock farming	Increase the number of organic livestock farms	In 2009, the number of organic livestock farms grew by 19%
Irrigated area	Introduce more efficient irrigation systems	Localised irrigation is used on 47.8% of Spain's irrigated area
Eco-efficiency in agriculture	Increase the economic value of agricultural production and decrease its pressure on the environment	Since 2007, fertiliser consumption has been decoupled from the sector's economic growth. This is also the case, albeit to a lesser extent, for phytosanitary products

COM(2010) 672 final entitled “*The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future*”, which was published in July 2011. The three most important challenges faced are food security, the environment and climate change, and territorial balance.

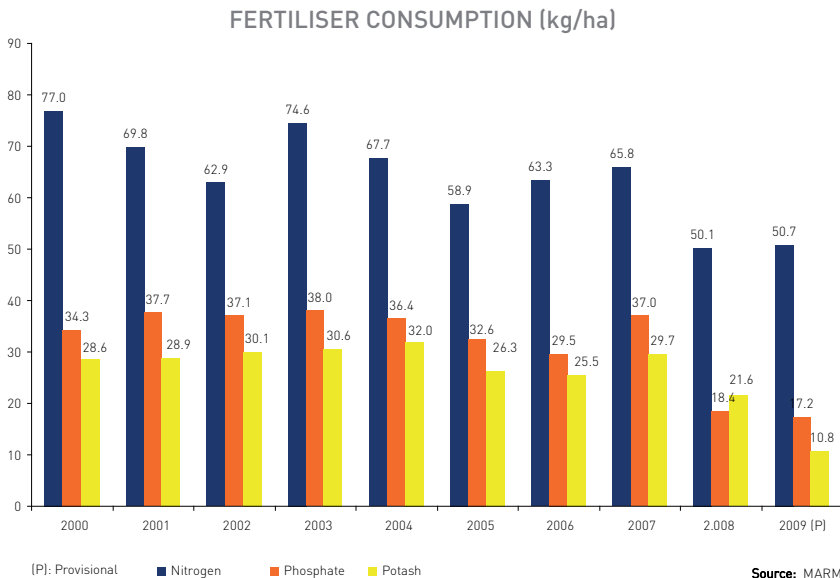
The new CAP should pursue the following strategic objectives: a) preserve food security and contribute to meeting global food demand, which according to the FAO will increase by 70% between now and 2050; b) support agricultural communities to ensure they supply their products in a sustainable way and conform to EU commitments to the environment, water quality, animal welfare and use of phytosanitary products; c) ensure rural communities remain viable and make agriculture a generator of employment. In summary, the future CAP should continue to be based on two pillars, the first maintaining the system of direct payments (revising redistribution to guarantee base income), and the second oriented towards rural development aimed at enhancing competitiveness and achieving sustainable management of natural resources and balanced territorial development. Within this framework, the environment, climate change and innovation should, more than ever, be the guiding principles of future policy.

On a national level, it is worth mentioning the boost given to the territorial and inter-sectorial outlook on rural development by the Sustainable Rural Development Programme 2010–2014 (PDRS) created in conjunction with regional governments, local authorities and other stakeholders to implement Law 45/2007 of 13 December, on sustainable rural development. Action plans have been drawn up for 219 rural areas that were carefully selected on the basis of their needs. These areas account for 84.4% of Spain’s land area and are home to 22.9% of the country’s population. The PDRS was adopted by Royal Decree 752/2010, of 4 July.

This chapter analyses the development of a set of selected indicators revealing the agricultural aspects that affect the environment — fertiliser consumption, phytosanitary product consumption and irrigated area. It also monitors development of livestock and organic farming (Spain has the largest area of organically farmed land in Europe with 1.6 million ha).

Fertiliser consumption

In 2009, fertiliser consumption fell for the second consecutive year, dropping by 9%



In 2009, fertiliser consumption totalled 78.7 kg/ha, 9% less than in 2008 (provisional data). However, the decrease was not uniform across the three existing types: potash and phosphate fertilisers fell by 47.9% and 2.7% respectively, while nitrogen fertilisers increased slightly, by 0.6%.

FERTILISER CONSUMPTION BY AGRICULTURAL YEAR (1,000 t)

By commercial product	2005/06	2006/07	2007/08	2008/09	2009/10
Simple nitrogen fertilisers	2,443	2,387	2,360	2,027	2,060
Simple phosphate fertilisers	190	183	251	69	101
Simple potash fertilisers	222	267	245	90	149
Complex fertilisers	1,959	1,973	2,281	911	1,458
Total fertilisers	4,814	4,810	5,137	3,097	3,768
By fertiliser element	2005/06	2006/07	2007/08	2008/09	2009/10
Total N	951	938	977	720	813
Total P ₂ O ₅	465	461	527	153	324
Total K ₂ O	387	411	432	181	274

Source: ANFEE

However, analysis of the provisional data for the agricultural year (running from July to June of the following year) rather than for the calendar year, reveals that mineral fertiliser consumption in the 2009/2010 agricultural year (running from July 2009 to June 2010) rose again after a sharp decrease in 2008/2009. In absolute figures, and

although far below the 5,000,000-tonne average of recent years, consumption seems to have started to recover, increasing in the last agricultural year by 21.7% compared to the previous 12 months.

Breaking consumption down by fertiliser type reveals an increase in consumption of all three fertilisers compared to the previous year, with use of nitrogen fertilisers rising by 12.9%, that of phosphate fertilisers by 111.7% and that of potash fertilisers by 51.4%.

Furthermore, analysis by fertiliser type (as a commercial product) shows a modest 1.6% increase in consumption of simple nitrogen fertilisers. Consumption of simple phosphate fertilisers rose by 46.4% in comparison with the 2008/2009 agricultural year and use of simple potash fertilisers leapt up by around 60%.

As in previous years, the link between agricultural intensity and fertiliser consumption remains particularly evident in autonomous communities such as Murcia, Valencia and the Canary Islands, where agriculture is more intensive than elsewhere in Spain.

NOTES

- According to the 2009 agri-food statistical yearbook, fertilisable area is defined as arable land (excluding fallow and other unoccupied land) and natural grasslands. MAPA.
- Fertilisers are defined as products used in agriculture or gardening that, due to their nutrient content, encourage plant growth, increase yield and improve crop quality, or that, due to their specific action, modify, as desired, soil fertility or its physical, chemical or biological characteristics. This category includes fertilisers, special products and conditioners.
- Inorganic or mineral fertiliser: fertiliser obtained by extraction or by physical or chemical industrial processes whose declared nutrients are present in mineral form.
- Simple fertiliser: nitrogen, phosphate or potash fertiliser with a declared content of a single main nutrient.
- Compound fertiliser: fertiliser obtained chemically or by mixing, or by a combination of both, with a declared content of at least two main nutrients.
- Complex fertiliser: compound fertiliser obtained by chemical reaction, in solution or solid form as granules, with a declared content of at least two main nutrients. In solid form, each granule contains all the nutrients in its declared composition (as per the definitions established by Royal Decree 824/2005 of 8 July, on fertiliser products).
- The period used to measure fertiliser consumption runs from July to June of the following year.

SOURCES

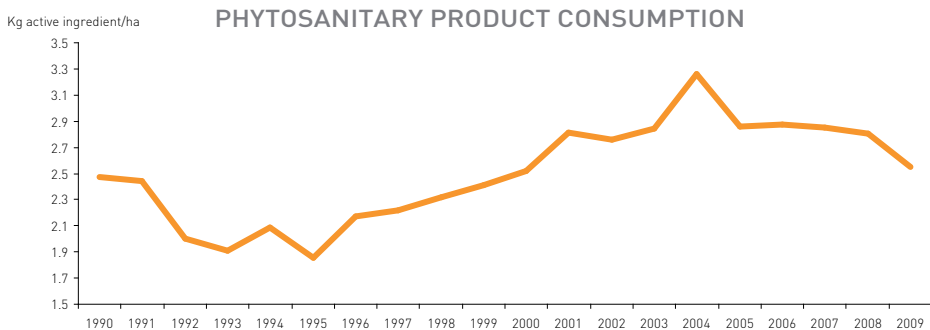
- ANFFE, 2011.
- MARM, 2010. *Anuario de Estadística 2009*.
- MARM, 2010. *Encuesta sobre Superficies y Rendimientos de Cultivos (ESYRCE)*, 2009.

FURTHER INFORMATION

- <http://www.marm.es>
- <http://www.anffe.com>

Phytosanitary product consumption

In 2009, the downward trend in phytosanitary product consumption begun in 2004 accelerated



Source: Compiled in-house using data from the AEPLA and the MARM

Annual consumption of phytosanitary products is mainly conditioned by climatic factors, particularly rainfall, which affect expected agricultural production and, consequently, consumption of the various products used. Since 2004, when phytosanitary product consumption (active ingredients) per hectare peaked, largely due to highly favourable climatic conditions, consumption has been falling steadily, accelerating further in 2009.

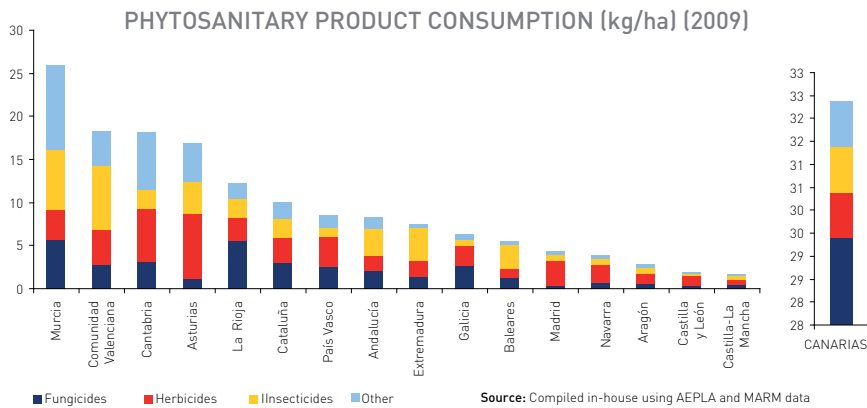
The current economic climate's effect on agricultural activity, along with the meteorological conditions of spring 2009, created enormous uncertainty among farmers, which was reflected in the 9% decrease in phytosanitary product consumption.

According to provisional data, the most widely used phytosanitary products in 2009 were herbicides (35%), consumption of which remained at a similar level to 2008, followed by insecticides (25%) and fungicides (25%).

Use of phytosanitary products can have undesirable and hazardous effects on human health, flora and fauna. Recent adoption of Regulation (EC) 1107/2009 of the European Parliament and of the Council, of 21 October 2009, concerning the placing of plant protection products on the market (repealing Council Directives 79/117/EEC and 91/414/EEC), aims to guarantee a higher level of protection for human and animal health and the environment, whilst seeking to improve operation of Europe's internal market by harmonising the regulations governing the placing of plant protection products on the market.

The Spanish State, by requiring authorisation for and entry in the MARM's Official Register of Phytosanitary Products, applies the necessary mechanisms to ensure that only plant protection products effective in combating pests, without incurring collateral risk, can be placed on the market.

At the same time, production of annual regulatory reports continues on the Phytosanitary Product Sales and Use Monitoring Programmes implemented by Spain's regional governments.



By autonomous community, greatest use of phytosanitary products per hectare occurs in the Canary Islands (70.7 kg/ha), Murcia (25.9 kg/ha), Valencia (18.3 kg/ha), Cantabria (18.2 kg/ha) and Asturias (19.9 kg/ha).

NOTES

In calculating the indicator, "area treated with phytosanitary products" is taken as the total area of arable land, excluding fallow and other unoccupied land (i.e. the area devoted solely to herbaceous and ligneous crops).

SOURCES

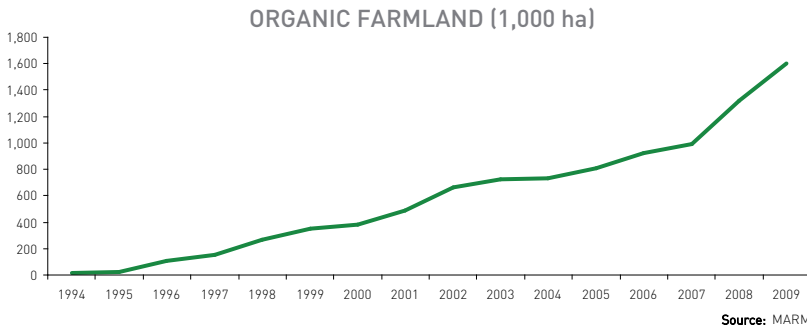
- Phytosanitary products: AEPLA.
- Treated area:
 - MARM, 2010. *Encuesta sobre Superficies y Rendimientos de Cultivos (ESYRCE)*, 2009.
 - MARM, 2010. *Anuario de Estadística 2009*.

FURTHER INFORMATION

- <http://www.marm.es>
- <http://www.aepla.es>

Organic farming

Spain has the most hectares of organic farmland of any country in the European Union

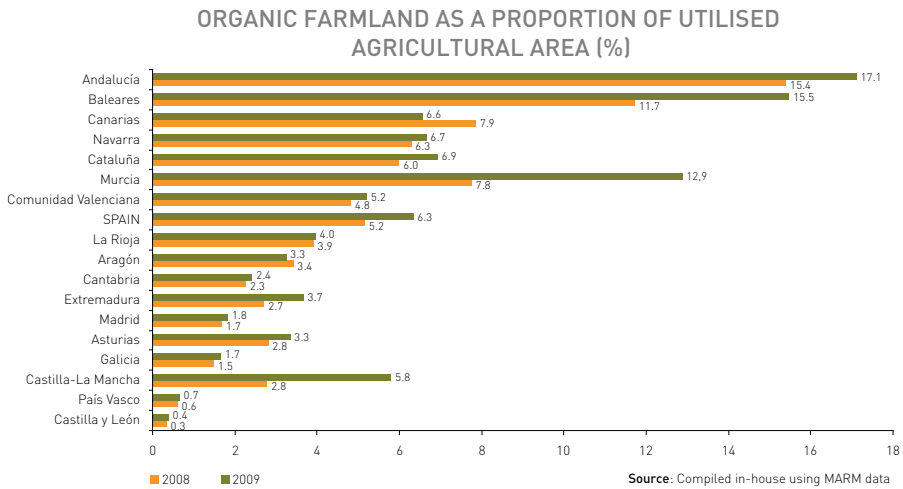


In recent years, organic farming has witnessed significant development boosted by growing consumer awareness about food safety and environmental issues. Organic farming should be considered an integral part of a sustainable agricultural production system, and as a viable alternative to the more traditional agricultural approach.

Organic farming has been regulated in Spain since 1989, when the Regulation on Generic Organic Labelling was passed. This was applied until the entry into force of Regulation (EC) 834/2007 of the Council, on organic production and labelling of organic products. At present, supervision and certification of organic farming is largely performed by regional Organic Farming Councils or Committees reporting to their respective regional ministries of agriculture.

In 2009, for the second consecutive year, Spain had the greatest number of hectares of organic farmland in the European Union. The country was also the world's sixth-biggest producer of organic products. Last year, Spain had 1,602 million hectares of organic farmland, 21.64% more than in 2008.

The number of workers in the sector rose from 23,473 in 2008 to 27,627 in 2009, representing a 17.7% year-on-year increase.



By autonomous community, Andalusia has the largest expanse of land devoted to organic farming (866,799 hectares in 2009, 54.08% of the country's total). It is followed by Castile-La Mancha, with 246,076 hectares (15% of the total) and Extremadura with 115,018 hectares (7.18% of the total). Next come Catalonia, with 71,734 hectares (15.09%); Aragon, with 66,730 hectares; Murcia, with 60,742 hectares; and Valencia, with 38,754 hectares.

In terms of crop typology for organic farming in Spain, pasture, grassland, forage and forest are used for organic livestock farming, occupying 1,030,890 hectares. These are followed by cereals, with 204,043 hectares, and olive groves (127,041 hectares).

NOTES

- Utilised Agricultural Area (UAA): Sum total of arable land, grassland and permanent pasture. The figures are taken from the *Encuesta sobre Superficies y Rendimientos de Cultivos (ESYRCE)*. MARM.
- The legislative framework governing organic farming in Spain since 1989 comprises the Regulation on Generic Organic Labelling and, at European level, Regulation (EC) 834/2007 of 28 June 2007, on organic production and labelling of organic products, which repealed Regulation (EEC) 2092/91 [Official Journal of the EU 20.07.2007].

SOURCES

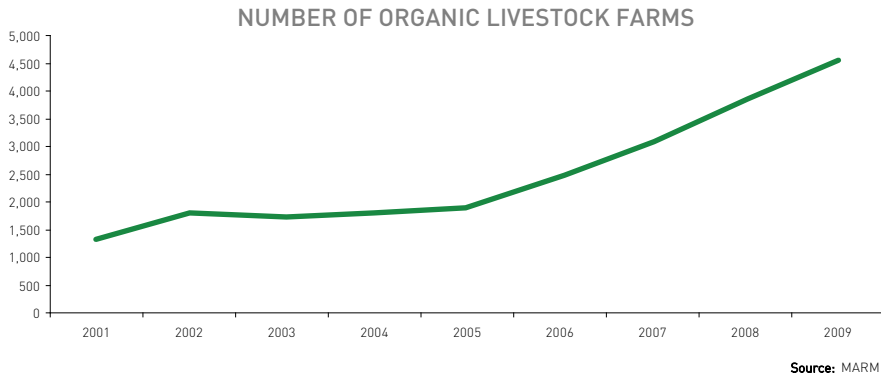
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- MARM, 2010. 2009 statistics. Organic farming. Spain.

FURTHER INFORMATION

- <http://www.marm.es/es/alimentacion/temas/la-agricultura-ecologica/>

Organic livestock farming

Growth in organic livestock farming continued in 2009 with a 19.2% increase in the number of organic livestock farms



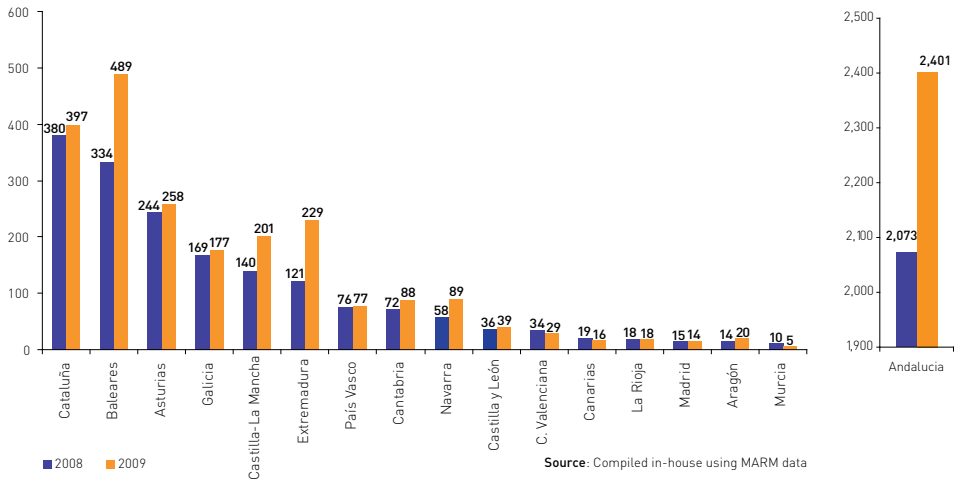
Organic livestock farming is a production system that ensures animals' well-being and protection. Under this system, animal's growth is not forced and they are provided with controlled foodstuffs, sufficient room to ensure mobility and access to water and open spaces.

Among other things, this means that the fodder and feed provided do not contain transgenic ingredients and were not cultivated using fertilisers or chemical pesticides. Likewise, antibiotics and anti-parasitic drugs are not used to prevent disease or to artificially stimulate production, but are replaced by careful management, measures to prevent disease transmission and rigorous selection to strengthen animal health.

The organic livestock farming sector developed strongly between 2005 and 2009, despite initial growth having been inconsistent across Spain's various autonomous communities. In 2009, Spain had 4,548 organic livestock farms, a 19.2% increase on the year before.

By autonomous community, Andalusia is still the region with the highest number of organic livestock farms (2,401, following a year-on-year rise of 15.8%). This represents 52.8% of all organic livestock farms in Spain. It is followed by the Balearic Islands with 489 livestock farms, Catalonia (397 farms) and Asturias (259 farms). The autonomous communities to record the largest increase in the number of organic livestock farms were Extremadura and Navarre, with 89.3% and 53.4% respectively.

NUMBER OF ORGANIC LIVESTOCK FARMS BY AUTONOMOUS COMMUNITY



By farm type, in 2009 cattle farming was once again the leading form of organic livestock farming. Cattle farms accounted for 46% of the total number of organic livestock farms (2,106), followed by sheep and goat farms (with 1,208 and 397 holdings, respectively), which comprised 36% of the total. Bee farming was the only form to decrease, falling slightly by 2.1% in comparison with the year before.

NOTES

- The legislative framework governing organic farming in Spain since 1989 comprises the Regulation on Generic Organic Labelling and, at European level, Regulation (EC) 834/2007 of 28 June 2007, on organic production and labelling of organic products, which repealed Regulation (EEC) 2092/91 [Official Journal of the EU 20.07.2007].

SOURCES

- MARM, 2010. *Anuario de Estadística*, 2009.
- MARM, 2010. 2009 statistics. Organic farming. Spain.

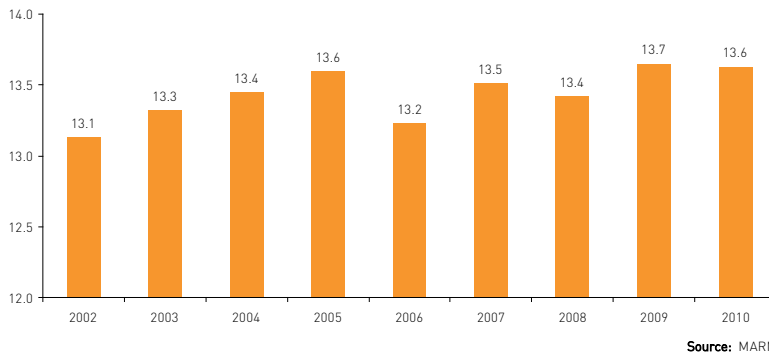
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Irrigated area

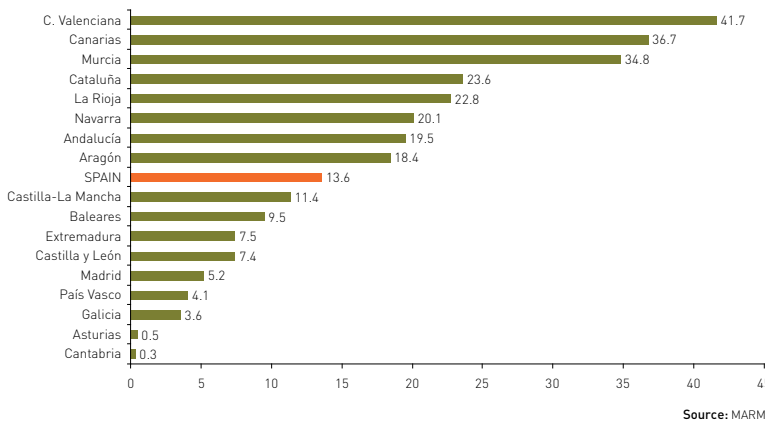
In 2010, the area of irrigated land decreased slightly on the previous year

IRRIGATED AREA AS A PROPORTION OF TOTAL AGRICULTURAL AREA (%)



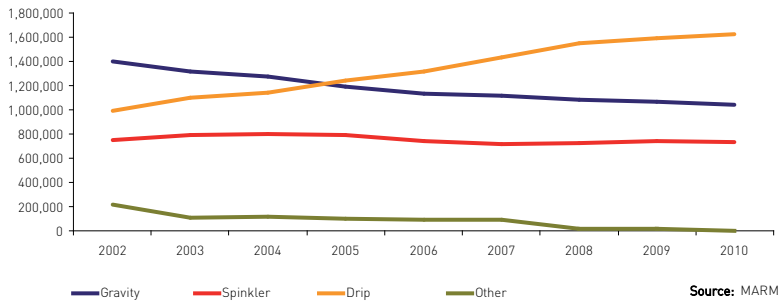
Irrigation plays a vital role in Spain’s agricultural economy. In 2010, irrigated area stood at 3,407,953 ha (13.6% of total agricultural area). This figure is slightly above the average proportion of irrigated area to total agricultural area for the last five years under study (13.5%), though it is lower than that of 2009.

IRRIGATED AREA AS A PROPORTION OF TOTAL AGRICULTURAL AREA (%). 2010



By autonomous community, Valencia (41.7%), the Canary Islands (36.7%) and Murcia (34.8%) had the highest proportions of irrigated area to total agricultural area, while Cantabria (0.3%) and Asturias (0.5%) had the lowest.

IRRIGATED AREA BY IRRIGATION SYSTEM (ha)



Since 2002, there has been an increase in the number of hectares watered by localised irrigation systems that, at 1,628,705 ha, represents almost 50% of the total area (47.8%). This increase is proportionate to the decrease in land area watered by gravity-fed irrigation systems, which are used on 1,043,704 ha (30.6%). Combined, they account for over 78% of the total. The area on which sprinkler irrigation systems are used has remained stable at 470,758 ha, or 13.8% of the total.

This progressive optimisation of water use, characterised by a gradual shift towards more efficient irrigation systems in many of the country's regions in recent years, is due to sustained application of policies designed to modernise irrigation practices and raise their efficiency.

In this regard, the future National Strategy for Sustainable Modernisation of Irrigation — Horizon 2015 aims to continue the efforts to improve water management and encourage sustainable irrigation begun with the Action Plan for the Modernisation of Irrigation 2006–08. The Strategy is intended to form one of the cornerstones of Spain's new sustainable agricultural model, which includes the clear target of creating employment in rural areas by modernising irrigation, and also constitutes a tool with which to manage spatial planning and maintain rural populations.

NOTES

- Irrigated area refers to the area devoted to crop production or pasture improvement that is supplied with water, irrespective of the number of times irrigation is performed per year.
- Total agricultural area refers to arable and fallow land, greenhouses and family smallholdings.
- One irrigated hectare produces on average six times more than an unirrigated hectare, and generates four times more income.

SOURCES

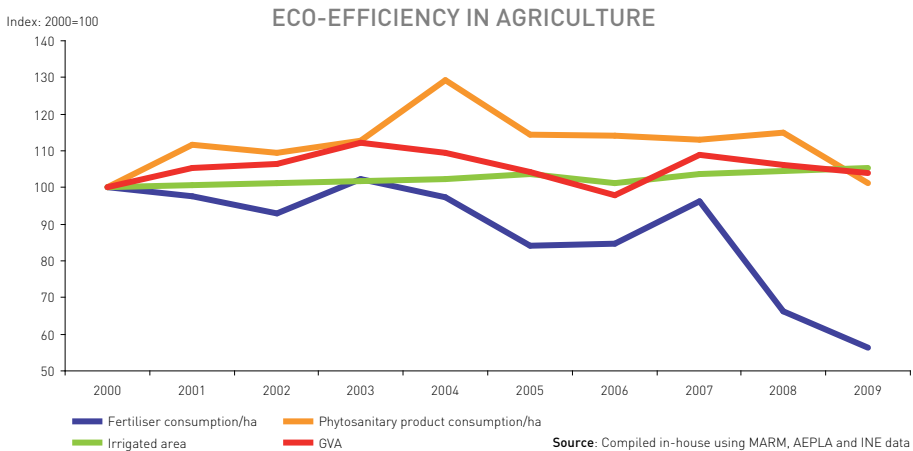
- MARM. *Encuesta sobre Superficies y Rendimientos de Cultivos (ESYRCE)*, various years.
- <http://www.marm.es/es/agua/temas/gestion-sostenible-de-regadios/>

FURTHER INFORMATION

- <http://www.marm.es>

Eco-efficiency in agriculture

Fertiliser consumption has been steadily decoupling from the sector's economic growth in recent years



Gross Value Added (GVA) for agriculture, livestock farming and fishing increased by 3.9% over the period 2000–2009. However, the annual figures fluctuated, peaking in 2003 (12.1% up on 2000) and dropping by 2.9% between 2007 and 2008 and by a further 2% between 2008 and 2009.

In this context, phytosanitary product consumption per hectare (active ingredients) grew by 1.1% in the same period, a figure principally attributable to the sharp decrease (of 12.1%) in 2009, which interrupted the stable trend of previous years. Likewise, irrigated area, which increased by 5.5%, followed the trend in GVA, though the rise was more substantial. However, the decrease in phytosanitary product consumption is significant, falling 43.7% in the nine years under study, and by almost 15% in the last year of the period.

In short, the sector's economic development in recent years has been accompanied by a slight increase in the agricultural area under irrigation; by a similar level of phytosanitary product consumption (mainly due to the decrease in the final year of the period under study); and by a sharp drop in fertiliser consumption per hectare.

NOTES

- Gross Value Added in the sector refers to agriculture, fishing, hunting and forestry.
- For the purpose of calculating the indicator, eco-efficiency is considered positive when the trend in the sector's economic growth is decoupled (contrary and divergent) from that of the pressures it exerts on the environment.

SOURCES

- GVA for agriculture, livestock farming and fishing: INE, 2011. Spanish National Accounts. GDP at market prices and its components. 2000 base. 1995–2009 accounting series.
- Fertiliser consumption per hectare: MARM, 2011. *Anuario de Estadística*, 2009.
- Phytosanitary product consumption per hectare:
 - AEPLA, 2011.
 - MARM, 2011. *Encuesta sobre Superficies y Rendimientos de Cultivos (ESYRCE)*, various years.
- Irrigated area: MARM, 2010. *Encuesta sobre Superficies y Rendimientos de Cultivos (ESYRCE)*, various years.

FURTHER INFORMATION

- <http://www.marm.es>
- <http://www.anffe.com>
- <http://www.aepla.es>
- <http://www.ine.es>