

**FEDERBIO**  
FEDERAZIONE ITALIANA AGRICOLTURA BIOLOGICA E BIODINAMICA



**Realtà e prospettive del biologico per un'agricoltura sostenibile**

*Paolo Carnemolla*

*Il Biologico verso l'Expo 2015 – Bologna 06 settembre 2013*

**Il Biologico italiano in movimento**



## **Nutrire il Pianeta, Energia per la Vita**

**Serve un sistema agroalimentare  
vantaggioso economicamente,  
equo socialmente e sostenibile  
ecologicamente in grado di sfamare  
più persone con meno risorse  
naturali a disposizione e  
cambiamento climatico in atto**

**Serve l'agroalimentare biologico**

# Regolamento (CE) n. 834/2007 del Consiglio del 28 giugno 2007



## New Zealand Journal of Agricultural Research

Publication details, including instructions for authors and subscription information:  
<http://www.tandfonline.com/loi/tnza20>

### A comparison of soil and environmental quality under organic and conventional farming systems in New Zealand

L. M. Condron<sup>a</sup>, K. C. Cameron<sup>a</sup>, H. J. Di<sup>a</sup>, T. J. Clough<sup>a</sup>, E. A. Forbes<sup>a</sup>, R. G. McLaren<sup>a</sup> & R. G. Silva<sup>a</sup>  
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[Advances in Agronomy](#)  
Volume 70, 2001, Pages 261-262, IN1, 263-327



## Agronomic and environmental implications of organic farming systems

E.A. Stockdale<sup>1</sup>, N.H. Lampkin<sup>2</sup>, M. Hovi<sup>3</sup>, R. Keatinge<sup>4</sup>, E.K.M. Lennartsson<sup>5</sup>, D.W. Maedonald<sup>6</sup>, S. Padel<sup>7</sup>, F.H. Tattersall<sup>8</sup>, M.S. Wolfe<sup>9</sup>, C.A. Watson<sup>10</sup>

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[http://dx.doi.org/10.1016/S0065-2113\(01\)70007-7](http://dx.doi.org/10.1016/S0065-2113(01)70007-7)

## Abstract

Organic farming systems are diverse and occur throughout the world. They are linked by common objectives of economic, environmental, and social sustainability. In many countries, organic farming now has a clear legislative basis and certification schemes for production and processing.

A range of structural features and tactical management approaches are combined within whole farm systems. Organic livestock systems are land-based. Species-specific animal husbandry, housing, and nutrition interact with breed selection and stockmanship, and animal welfare standards are generally higher than comparable conventional systems. Production per animal is maintained or increased, but farm output may be reduced due to lower stocking rates. The design of a diverse crop rotation is the key to crop nutrition, weed, pest and disease control. In Europe, yields of arable crops

<sup>16<sup>th</sup></sup> IFoAM Organic World Congress, Modena, Italy, June 16-20, 2008  
Archived at <http://orgprints.org/view/projects/conference.html>

## A comparison of energy use in organic and conventional agriculture in Spain

Alonso, A.M.<sup>1</sup>, González, R., Foraster, L., Guzmán, G.I. & García, R.

Key words: Organic Farming, Ecological Agriculture, Agroecology, Sustainable Agriculture, Energy Efficiency.

## Abstract

The current situation of worldwide concern over the emission of greenhouse gases and its effect on the climate demands an evaluation, from the perspective of energy efficiency and more specifically of non-renewable energy sources, of tendencies for change in the management of agricultural systems that have arisen in recent years. This article uses energy balances to evaluate the contribution of organic agriculture to the increase in the energy efficiency of Spanish agriculture. The results show the higher nonrenewable energy efficiency (NREE) and the lower use of nonrenewable

«La produzione biologica è un **sistema globale** di gestione dell'azienda agricola e di **produzione agroalimentare** basato sull'**interazione** tra le migliori pratiche **ambientali**, un **alto livello di biodiversità**, la **salvaguardia delle risorse naturali**, l'**applicazione di criteri rigorosi in materia di benessere degli animali** e una **produzione confacente alle preferenze di taluni consumatori per prodotti ottenuti con sostanze e procedimenti naturali**»

Eric Arellano  
Dr. LeFebvre  
Cluster 7 Biomedical Sciences  
25 July 2012

### Organic Agriculture's Impact on the Environment

*Conventional agriculture typically leads to heavy negative environmental consequences. Organic agriculture seeks to minimize this harm by employing more eco-friendly practices, such as crop rotation and low tillage. Organic agriculture outperforms conventional farming with decreased water use, improved water quality, less energy use, improved soil biodiversity and quality, and increases in biodiversity.*

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#### Benefits of organic farming to biodiversity vary among taxa

R.J. Fuller<sup>1\*</sup>, L.R. Norton<sup>2</sup>, R.E. Feber<sup>3</sup>, P.J. Johnson<sup>3</sup>, D.E. Chamberlain<sup>1</sup>, A.C. Joys<sup>1</sup>, F. Mathews<sup>3</sup>, K.C. Stuart<sup>2</sup>, M.C. Townsend<sup>3</sup>, W.J. Manley<sup>4</sup>, M.S. Wolfe<sup>5</sup>, D.W. Macdonald<sup>3</sup> and L.G. Firbank<sup>2</sup>

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### Organic Farming Favours Insect-Pollinated over Non-Insect Pollinated Forbs in Meadows and Wheat Fields

Péter Batáry<sup>1,2\*</sup>, Laura Sutcliffe<sup>3</sup>, Carsten F. Dormann<sup>4,5</sup>, Teja Tscharntke<sup>1</sup>

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#### Abstract

The aim of this study was to determine the relative effects of landscape-scale management intensity, local management intensity and edge effect on diversity patterns of insect-pollinated vs. non-insect pollinated forbs in meadows and wheat fields. Nine landscapes were selected differing in percent intensively used agricultural area (IAA), each with a pair of organic and conventional winter wheat fields and a pair of organic and conventional meadows. Within fields, forbs were surveyed at the edge and in the interior. Both diversity and cover of forbs were positively affected by organic management in meadows and wheat fields. This effect, however, differed significantly between pollination types for species richness in both agroecosystem types (i.e. wheat fields and meadows) and for cover in meadows. Thus, we show for the first time in a comprehensive analysis that insect-pollinated plants benefit more from organic management than non-insect pollinated plants regardless of agroecosystem type and landscape complexity. These benefits were more pronounced in meadows

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#### Does organic farming benefit biodiversity?

D.G. Hole<sup>a\*</sup>, A.J. Perkins<sup>b</sup>, J.D. Wilson<sup>c</sup>, I.H. Alexander<sup>d</sup>, P.V. Grice<sup>e</sup>, A.D. Evans<sup>a</sup>

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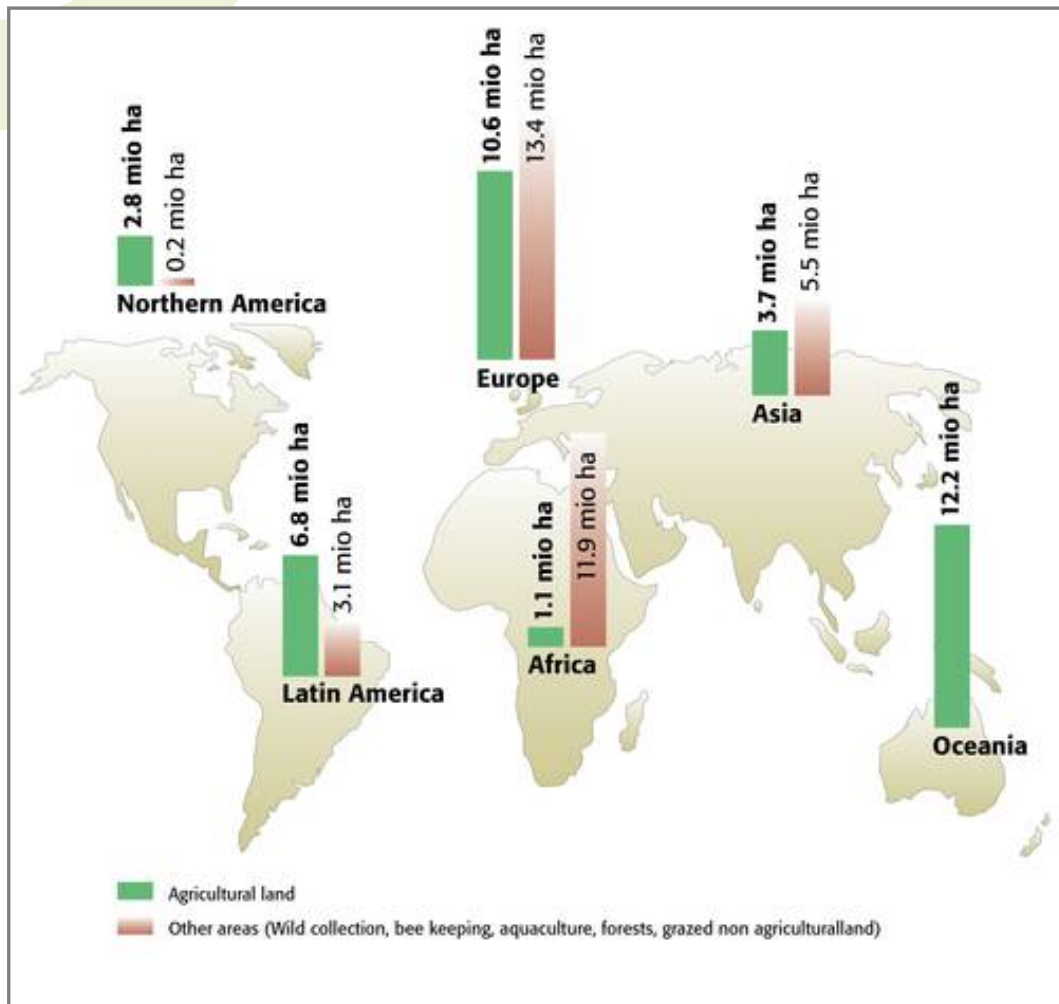
<sup>e</sup> English Nature, Northminster House, Peterborough PE1 1UA, UK

Received 17 September 2003; received in revised form 8 July 2004; accepted 15 July 2004

«Il metodo di produzione biologico **esplica pertanto una duplice funzione sociale**, provvedendo da un lato a un **mercato** specifico che risponde alla domanda di prodotti biologici dei consumatori e, dall'altro, fornendo beni pubblici che **contribuiscono alla tutela dell'ambiente, al benessere degli animali e allo sviluppo rurale**»

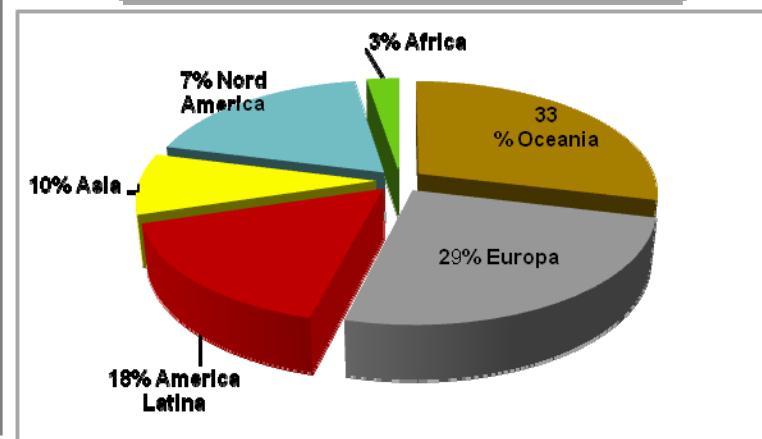
# Agricoltura Bio nel mondo: la superficie

Superfici coltivate a biologico per continente - 2011 (includenti i terreni in conversione)



Ripartizione percentuale per continente delle superfici coltivate a biologico - 2011 (includenti i terreni in conversione)

Continento	Superficie bio 2011 (ha)	Suddivisione % per continente della superficie bio globale
Africa	1.073.657	2,88%
Asia	3.706.280	9,95%
Europa	10.637.128	28,56%
America Latina	6.857.611	18,41%
Nord America	2.790.162	7,49%
Oceania	12.185.843	32,71%
<b>Totale</b>	<b>37.245.686</b>	<b>100,00%</b>

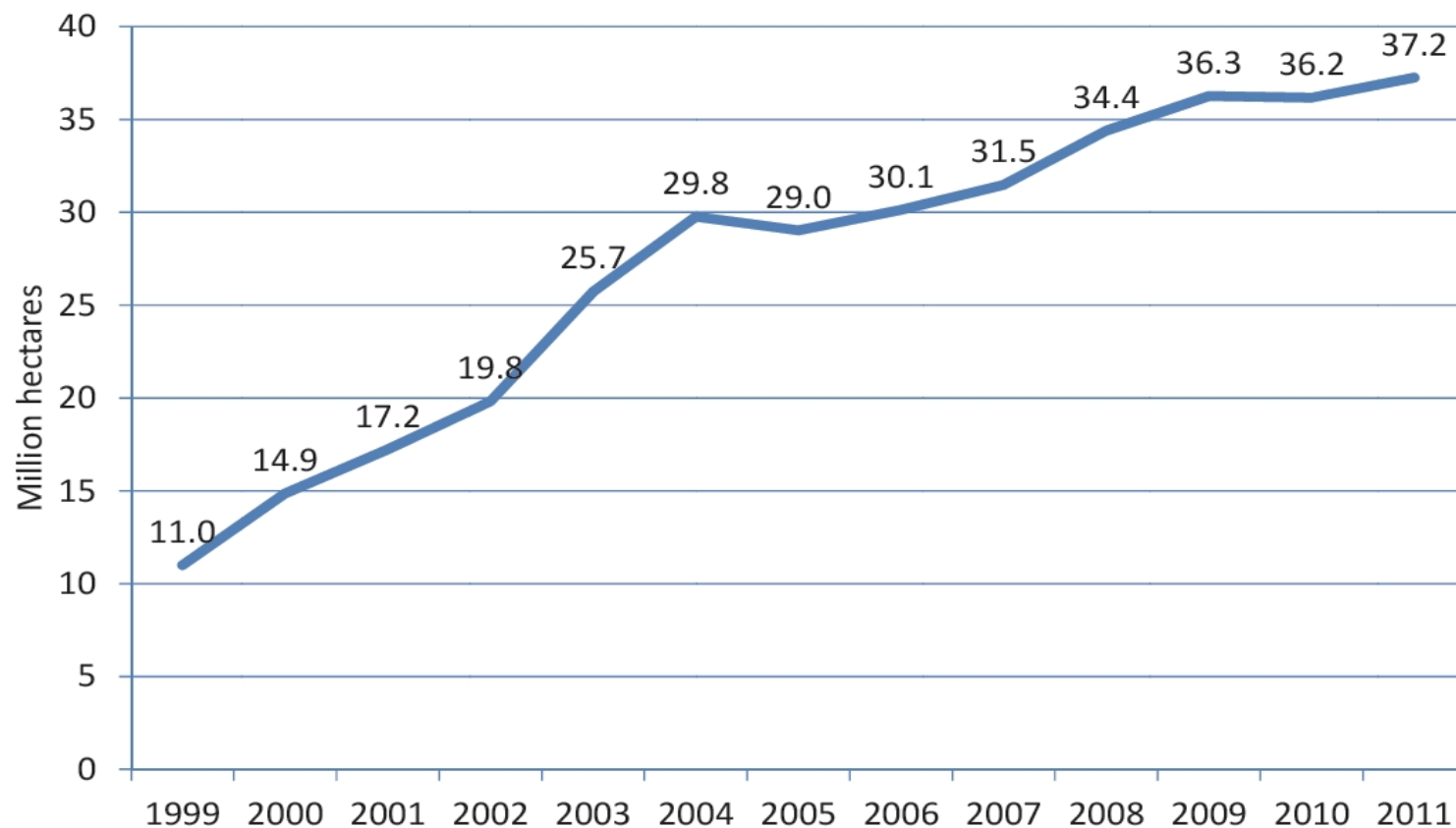


Fonte: FIBI/IFOAM, "The World of Organic Agriculture: Statistics and Emerging Trends 2013" (dati relativi alla fine del 2011)

## Agricoltura Bio nel mondo: la superficie

### Growth of the organic agricultural land 1999-2011

Source: FiBL-IFOAM-SOEL-Surveys 1999-2013



**Figure 5: World: Growth of the organic agricultural land 1999-2011**

Source: FiBL, IFOAM, and SOEL 2000-2013

Fonte: FiBL/IFOAM, "The World of Organic Agriculture: Statistics and Emerging Trends 2013" (dati relativi alla fine del 2011)

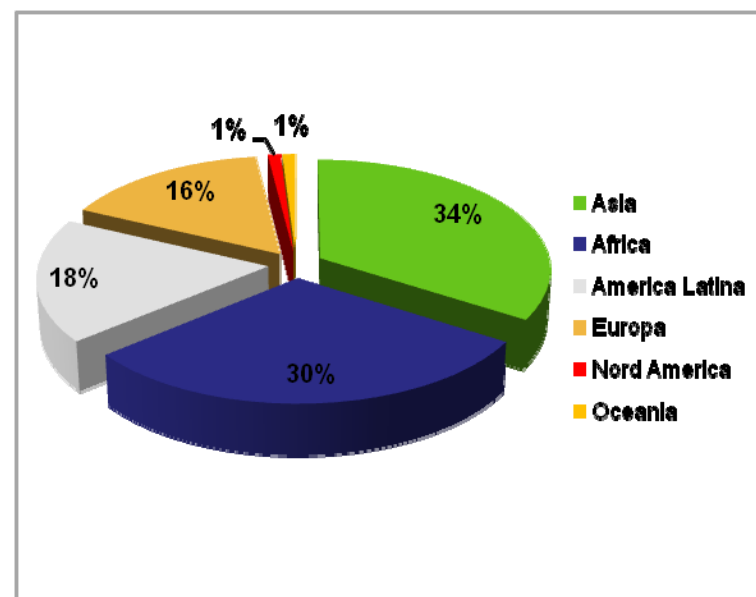
## Agricoltura Bio nel mondo: i produttori

I produttori biologici risultano pari a **1.800.000 nel 2011**, con un incremento del 14,3% rispetto al 2010 (corrispondente a oltre 225.000 unità). Più di tre quarti dei produttori biologici mondiali sono localizzati in Paesi in via di sviluppo ed emergenti (Africa, Asia ed America Latina).

*Variazione del numero dei produttori per continente - 2010/2011*

Continente/ anno	2010	2011	Variazione numerica	Variazione percentuale
Africa	539.403	540.988	+1.585	+0,3%
Asia	460.762	619.439	+158.677	+34,4%
Europa	277.491	291.451	+13.990	+5,0%
America Latina	270.568	315.889	+45.321	+16,8%
Nord America	16.673	16.659	-14	-0,1%
Oceania	8.483	14.138	+5.655	+66,7%
<b>Totale</b>	<b>1.573.209</b>	<b>1.798.359</b>	<b>+ 225.150</b>	<b>+14,3%</b>

*Distribuzione percentuale per continente del numero di produttori bio nel 2011*

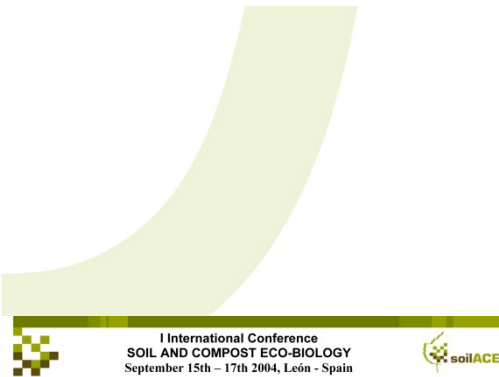


Fonte: FiBI/IFOAM, "The World of Organic Agriculture: Statistics and Emerging Trends 2013" (dati relativi alla fine del 2011)



# L'attuale produzione agroalimentare non è sostenibile dal punto di vista ambientale.

**Il rapporto nazionale sui pesticidi nelle acque pubblicato (ISPRA, 2013) rileva la presenza di residui di pesticidi nel 55,1% delle acque superficiali analizzate (nel 34,4% dei casi con concentrazioni superiori ai limiti delle acque potabili) e nel 28.2% delle acque sotterranee, nel 12,3% dei casi con concentrazioni superiori ai limiti di legge.**



## D-O-K (BIODYNAMIC-BIOORGANIC-CONVENTIONAL): RESULTS FROM 21 YEAR OLD FIELD EXPERIMENT.

Andreas Fließbach, Jacques Fuchs, Paul Mäder  
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### Introduction

The land area of organic agriculture in Europe has increased considerably in the last years and organic agriculture is investigated intensively in many fields of research. Earlier the organic farming movement was created by pioneers, whose ideas and innovations formed an alternative to the so-called „green revolution“ that came along with pesticide use and synthetic Agriculture, Ecosystems & Environment

Volume 64, Issue 2, July 1997, Pages 133–139



## The effects of organic farming on pest and non-pest butterfly abundance

R.E. Feber<sup>a</sup>, L.G. Firbank<sup>b</sup>, P.J. Johnson<sup>a</sup>, D.W. Macdonald<sup>c</sup>

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### Abstract

Butterfly transects were conducted on eight pairs of organic and conventional farms in the UK in 1994 and ten pairs of farms in 1995. Each transect included areas of conventional and organic

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## Fruit and Soil Quality of Organic and Conventional Strawberry Agroecosystems

John P. Reganold<sup>1</sup>\*, Preston K. Andrews<sup>2</sup>, Jennifer R. Reeve<sup>3</sup>, Lynne Carpenter-Boggs<sup>4</sup>, Christopher W. Schadt<sup>5</sup>, J. Richard Alldredge<sup>6</sup>, Carolyn F. Ross<sup>7</sup>, Neal M. Davies<sup>8</sup>, Jizhong Zhou<sup>9</sup>

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Agriculture, Ecosystems & Environment

Volume 129, Issues 1–3, January 2009, Pages 221–227



## Consequences of organic and non-organic farming practices for field, farm and landscape complexity

Lisa Norton<sup>a</sup>, Paul Johnson<sup>b</sup>, Andrew Jovs<sup>c</sup>, Rick Stuart<sup>d</sup>, Dan Chamberlain<sup>e</sup>, Ruth Feber<sup>f</sup>, Les Firbank<sup>g</sup>, Will Manley<sup>h</sup>, Martin Wolfe<sup>i</sup>, Barbara Hart<sup>j</sup>, Fiona Mathews<sup>k</sup>, David Macdonald<sup>l</sup>, Robert J. Fuller<sup>l</sup>

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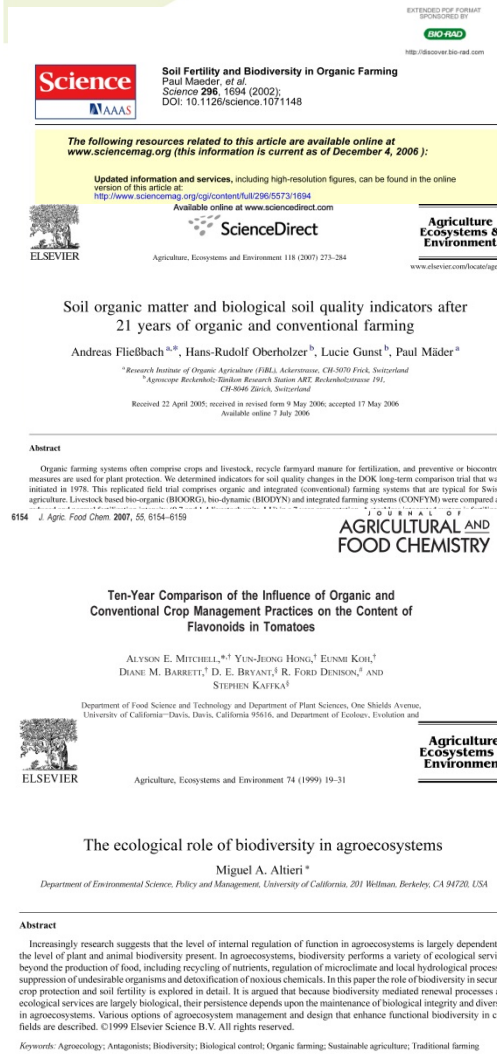


# L'attuale sistema agroalimentare non è sostenibile dal punto di vista sanitario

**Secondo dati OMS, nel 2005 1,6 miliardi di terrestri erano in sovrappeso e 400 milioni obesi, afflitti da varie «malattie del benessere»**

**A sud del mondo in 450 milioni erano sottonutriti.**

**Aumentano i batteri antibiotico resistenti e calano i nutrienti negli alimenti.**





Journal of Applied Ecology 2005 42, 261–269

**The effects of organic agriculture on biodiversity and abundance: a meta-analysis**

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Department of Ecology and Crop Production Science, Section for Landscape Ecology, SLU, Box 7043, S-750 07 Uppsala, Sweden

**Summary**

1. The efficiency of agricultural subsidy programmes for preserving biodiversity and improving the environment has been questioned in recent years. Organic farming operates without pesticides, herbicides and inorganic fertilizers, and usually with a more diverse crop rotation. It has been suggested that this system enhances biodiversity in agricultural landscapes. We analysed the effects of organic farming on species richness and abundance using meta-analysis of literature published before December 2002.

2. Organic farming usually increases species richness, having on average 30% higher species richness than conventional farming systems. However, the results were variable among studies, and 16% of them actually showed a negative effect of organic farming on species richness. We therefore divided the data into different organism groups and according to the spatial scale of the study.

3. Birds, insects and plants usually showed an increased species richness in organic

**The Environmental Impacts of Organic Farming in Europe**

**Organic Farming in Europe: Economics and Policy**  
*Volume 6*

# L'attuale produzione agroalimentare non è sostenibile dal punto di vista dell'equità

**Sprechi alimentari per il 10% degli acquisti domestici nel nord del mondo.  
Negli Usa si supera il 40%.**

**Con quanto si butta via si nutrirebbero 150 milioni di persone**

2  
1  
5  
1  
1  
5

# L'attuale produzione agroalimentare non è sostenibile economicamente per i produttori

Continua a crollare il numero degli agricoltori nei Paesi occidentali perché i prezzi di questa produzione che inquina ed è iniqua non sono remunerativi.

Nel sud del mondo agricoltori e braccianti sono sfruttati.

Il commercio equo, che dovrebbe essere una regola, è un sistema minoritario certificato.

Eric Arellano  
Dr. Lefebvre  
Cluster 7 Biomedical Sciences  
25 July 2012

## Organic Agriculture's Impact on the Environment

*Conventional agriculture typically leads to heavy negative environmental consequences. Organic agriculture seeks to minimize this harm by employing more eco-friendly practices, such as crop rotation and low tillage. Organic agriculture outperforms conventional farming with decreased water use, improved water quality, less energy use, improved soil biodiversity and quality, and increases in biodiversity.*

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Péter Batáry<sup>1,2\*</sup>, Laura Sutcliffe<sup>3</sup>, Carsten F. Dormann<sup>4,5</sup>, Teja Tscharntke<sup>1</sup>

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### Abstract

The aim of this study was to determine the relative effects of landscape-scale management intensity, local management intensity and edge effect on diversity patterns of insect-pollinated vs. non-insect pollinated forbs in meadows and wheat fields. Nine landscapes were selected differing in percent intensively used agricultural area (IAA), each with a pair of organic and conventional winter wheat fields and a pair of organic and conventional meadows. Within fields, forbs were surveyed at the edge and in the interior. Both diversity and cover of forbs were positively affected by organic management in meadows and wheat fields. This effect, however, differed significantly between pollination types for species richness in both agroecosystem types (i.e. wheat fields and meadows) and for cover in meadows. Thus, we show for the first time in a comprehensive analysis that insect-pollinated plants benefit more from organic management than non-insect pollinated plants regardless of agroecosystem type and landscape complexity. These benefits were more pronounced in meadows

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L'attuale agricoltura biologica, ci conferma la ricerca, è **sostenibile** dal punto di vista **ambientale**, **energetico**, **sanitario**, **sociale**, del **benessere animale**, dello **sviluppo rurale**, della **qualità**.

Incrementa la **biodiversità**, aumenta la **fertilità** dei suoli, non spreca **energia fossile**, non spreca **acqua**, sequestra più **CO<sub>2</sub>** di quella emessa, è più resiliente al **cambiamento climatico**, valorizza le **piccole e medie imprese**, contribuendo a mantenere **vive** le campagne.



L'attuale agricoltura biologica **non**  
**esternalizza costi occulti** ambientali,  
sanitari e sociali.

Non ha alle spalle **apparati**  
**parassitari**, né che **vendono**  
**antiparassitari**.

I suoi operatori sono **giovani, istruiti**,  
molti son **donne**.  
Operano in **rete** con una  
cooperazione **dinamica**.  
Sono **multitasking e multifunzionali**.



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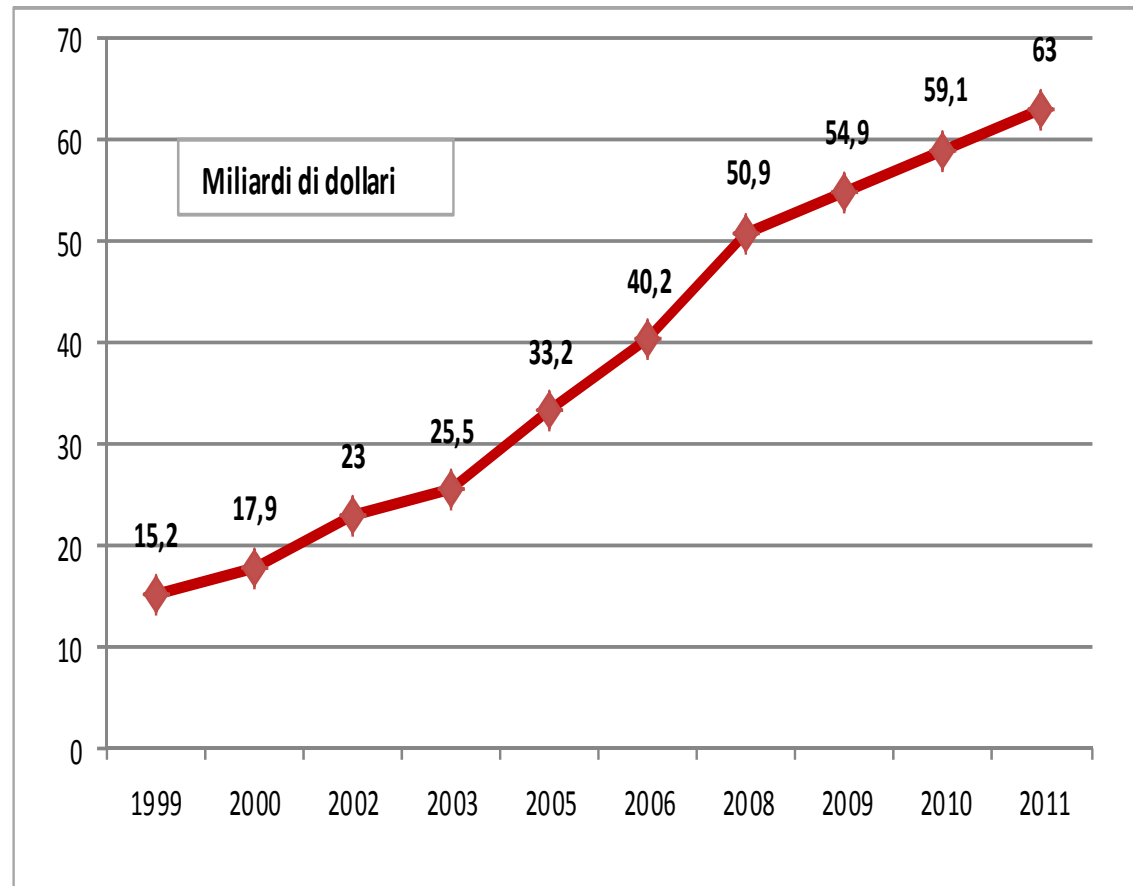
<sup>c</sup> RSPB Scotland, Dumfries House, 25 Ravelston Terrace, Edinburgh EH4 3TP, UK

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## Il grafico mostra il trend tutto positivo del mercato biologico globale degli ultimi anni





# L'AGRICOLTURA BIOLOGICA NON DEVE ENTRARE NEL DIBATTITO «NUTRIRE IL PIANETA, ENERGIA PER LA VITA».

Eric Arellano  
Dr. LeFebvre  
Cluster 7 Biomedical Sciences  
25 July 2012

## Organic Agriculture's Impact on the Environment

*Conventional agriculture typically leads to heavy negative environmental consequences. Organic agriculture seeks to minimize this harm by employing more eco-friendly practices, such as crop rotation and low tillage. Organic agriculture outperforms conventional farming with decreased water use, improved water quality, less energy use, improved soil biodiversity and quality, and increases in biodiversity.*

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### Benefits of organic farming to biodiversity vary among taxa

[R.J Fuller](#)<sup>1\*</sup>, [L.R Norton](#)<sup>2</sup>, [R.E Feber](#)<sup>3</sup>, [P.J Johnson](#)<sup>3</sup>, [D.E Chamberlain](#)<sup>1</sup>, [A.C Joys](#)<sup>1</sup>, [F Mathews](#)<sup>3</sup>, [K.C Stuart](#)<sup>2</sup>, [M.C Townsend](#)<sup>3</sup>, [W.J Manley](#)<sup>4</sup>, [M.S Wolfe](#)<sup>5</sup>, [D.W Macdonald](#)<sup>3</sup> and [L.G Firbank](#)<sup>2</sup>

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## Organic Farming Favours Insect-Pollinated over Non-Insect Pollinated Forbs in Meadows and Wheat Fields

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### Abstract

The aim of this study was to determine the relative effects of landscape-scale management intensity, local management intensity and edge effect on diversity patterns of insect-pollinated vs. non-insect pollinated forbs in meadows and wheat fields. Nine landscapes were selected differing in percent intensively used agricultural area (IAA), each with a pair of organic and conventional winter wheat fields and a pair of organic and conventional meadows. Within fields, forbs were surveyed at the edge and in the interior. Both diversity and cover of forbs were positively affected by organic management in meadows and wheat fields. This effect, however, differed significantly between pollination types for species richness in both agroecosystem types (i.e. wheat fields and meadows) and for cover in meadows. Thus, we show for the first time in a comprehensive analysis that insect-pollinated plants benefit more from organic management than non-insect pollinated plants regardless of agroecosystem type and landscape complexity. These benefits were more pronounced in meadows

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# DEV'ESSERNE IL FOCUS



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#### Abstract

The intensification and expansion of modern agriculture is amongst the greatest current threats to worldwide biodiversity. Over the last quarter of the 20th century, dramatic declines in both range and abundance of many species associated with farmland have been reported in Europe, leading to growing concern over the sustainability of current intensive farming practices. Properly 'sustainable' farming systems such as organic farming are now seen by many as a potential solution to this continued loss of biodiversity and receive substantial support in the form of subsidy payments through EU and national government legislation. This paper assesses the impacts on biodiversity of organic farming, relative to conventional agriculture, through a review of comparative studies of the two systems, in order to determine whether it can deliver on the biodiversity benefits its proponents claim. It

L'ITALIA NON SOLO OSPITA L'EXPO  
MA:

E' FRA I PRIMI 10 PAESI PIU'  
IMPORTANTI AL MONDO PER  
DIMENSIONI DEL SETTORE

E' AL CENTRO DI UNA DELLE AREE  
PIU' VOCATE PER L'AGRICOLTURA  
BIOLOGICA (IL MEDITERRANEO)

E' RICONOSCIUTA COME LA PATRIA  
DELLA DIETA MEDITERRANEA

OSPITA LE AGENZIE DELL'ONU CHE  
SI OCCUPANO DI AGRICOLTURA E  
ALIMENTAZIONE

CHE ASPETTIAMO?

FEDERBIO  
FEDERAZIONE ITALIANA AGRICOLTURA BIOLOGICA E BIODINAMICA