



Realtà e prospettive del biologico per un'agricoltura sostenibile

Paolo Carnemolla

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

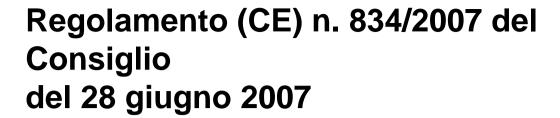
Il Biologico italiano in movimento

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







New Zealand Journal of Agricultural Research

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

L. M. Condron a, K. C. Cameron , H. J. Di , T. J. Clough , E. A. Forbes a R. G. McLaren a & R. G. Silva a

^a Centre for Soil and Environmental Quality, Lincoln University, P.O.

Volume 70, 2001, Pages 261-262, IN1, 263-327



Agronomic and environmental implications of organic farming systems

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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, yeilds of arable crops

> 16th IFOAM Organic World Congress, Modena, Italy, June 16-20, 2008 Archived at http://orgprints.org/view/projects/d

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

Alonso, A.M.1, González, R., Foraster, L., Guzmán, G.I. & García, R.

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

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.

Biology letters Received May 10, 2005. Accepted June 10, 2005. © 2005 The Royal Society

Benefits of organic farming to biodiversity vary among taxa

R.J Fuller1*, L.R Norton2, R.E Feber3, P.J Johnson3, D.E Chamberlain1, A.C Joys1, F Mathews3, R.C Stuart2, M.C Townsend3, W.J Manley4, M.S Wolfe5, D.W Macdonald3 and L.G Firbank2

Affiliations

OPEN & ACCESS Freely available online



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

Péter Batáry^{1,2}*, Laura Sutcliffe³, Carsten F. Dormann^{4,5}, Teja Tscharntke¹

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Abstrac

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 is 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 intents, but 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 and the properties of t



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BIOLOGICAL CONSERVATION

Biological Conservation 122 (2005) 113-130

Does organic farming benefit biodiversity?

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

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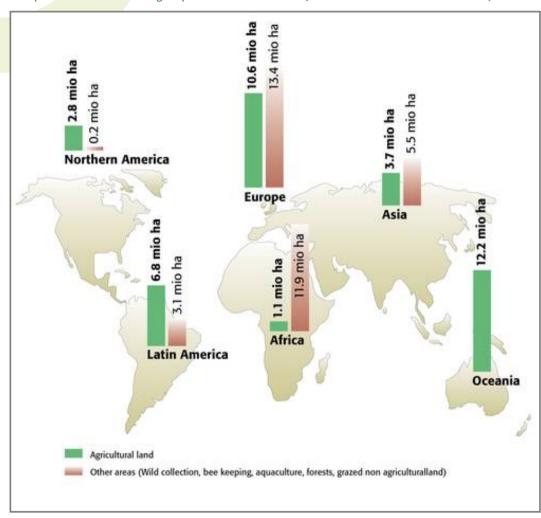
Received 17 September 2003; received in revised form 8 July 2004; accepted 15 July 2004

«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»



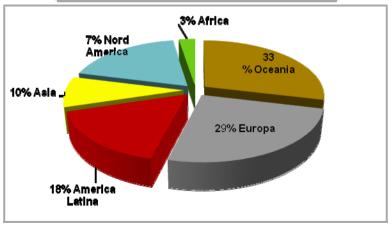
Agricoltura Bio nel mondo: la superficie

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)

Continente	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%
Totale	37.245.686	100,00%



Fonte: FiBl/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

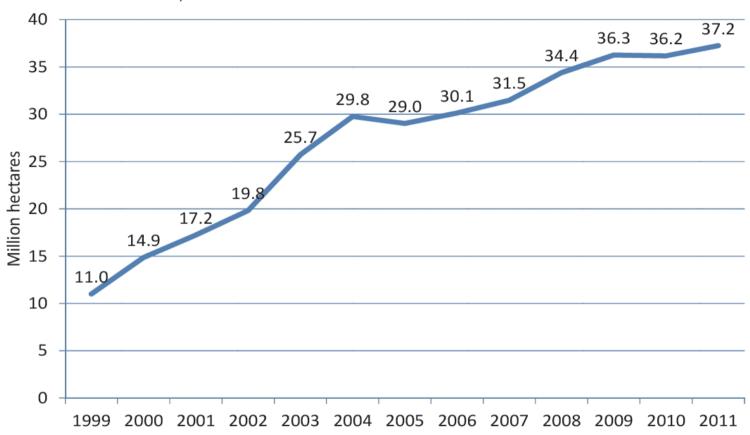


Figure 5: World: Growth of the organic agricultural land 1999-2011

Source: FiBL, IFOAM, and SOEL 2000-2013

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



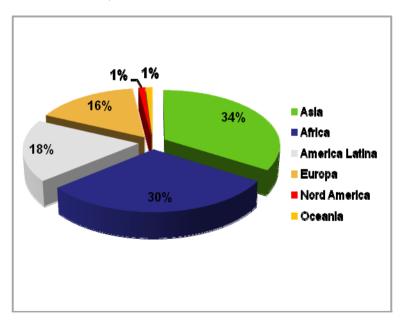
Agricoltura Bio nel mondo: i produttori

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/ Variazione Variazione 2010 2011 numerica percentuale anno 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 +45..321 270.568 315.889 +16,8% Nord America 16.673 16.659 -14 -0,1% Oceania 8.483 14.138 +5.655 +66,7% **Totale** 1.573.209 1.798.359 + 225.150 +14.3%

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)





I International Conference SOIL AND COMPOST ECO-BIOLOGY September 15th - 17th 2004, León - Spain



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

Andreas Fließbach, Jacques Fuchs, Paul Mäder FiBL, Research Institute of Organic Agriculture, CH-Frick Ackerstrasse, CH-5070 Frick, email: jacques.fuchs@fibl.org

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 st 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 a, L.G. Firbank, P.J. Johnson, D.W. Macdonald

a Wildlife Conservation Research Unit, Department of Zoology, University of Oxford, South Parks Road, Oxford, OX1 3PS, UK, b Institute of Terrestrial Ecology, Merlewood Research Station, Grange-over-Sands, LA11 GJU, UK

Abstract

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

Fruit and Soil Quality of Organic and Conventional Strawberry Agroecosystems

John P. Reganold¹*, Preston K. Andrews², Jennifer R. Reeve³, Lynne Carpenter-Boggs⁴, Christopher W. Schadt⁵, J. Richard Alldredge⁶, Carolyn F. Ross⁷, Neal M. Davies⁸, Jizhong Zhou⁹

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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 Nortona, Paul Johnsonb, Andrew Joyse, Rick Stuarta, Dan Chamberlaine, Ruth Feberb, Les Firbank^d, Will Manley^e, Martin Wolfe^f, Barbara Hart^e, Fiona Mathews^b, David Macdonald^b, Robert

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.



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^b Wildlife Conservation Research Unit, University of Oxford, Department of Zoology, Tubney House, Abingdon Road, Frauge Conservation Lescenter Ont. Investing of Copins, Department of Zoongs, Tumny House, An Tubney, Abingdoo (XX) 3 OL. UK.

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Science MAAAS Soil Fertility and Biodiversity in Organic Farming Paul Maeder, et al. Science 296, 1694 (2002); DOI: 10.1126/science.1071148

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ystems and Environment 118 (2007) 273-284

Agriculture Ecosystems & Environment

Soil organic matter and biological soil quality indicators after 21 years of organic and conventional farming

Andreas Fließbach a.*, Hans-Rudolf Oberholzer b, Lucie Gunst b, Paul Mäder

Research Institute of Organic Agriculture (FiBL), Ackerstrasse, CH-5070 Frick, Switzerland ^bAgroncope Reckenholz-Tänikon Research Station ART, Reckenholzstrasse 191,

Received 22 April 2005; received in revised form 9 May 2006; accepted 17 May 2006 Available online 7 July 2006

Abstra

Organic farming systems often comprise crops and livestock, recycle farmyard manuer for fertilization, and preventive or biocomm measures are used for plant pretention. We determined indicates for soil quality changes in the DOK long-term comparison trial that we initiated in 1973. This replicated field that comprises cognize and integrated conventional farming systems made are typical for Soil agriculture. Livestock based hos-rapaic (BIOORG), ho-dynamic (BIOOPN) and integrated farming systems (COOPYM) were compared. **State of the Coopy of th

AGRICULTURAL AND

Ten-Year Comparison of the Influence of Organic and Conventional Crop Management Practices on the Content of Flavonoids in Tomatoes

ALYSON E. MITCHELL, *.† YUN-JEONG HONG,† EUNMI KOH,†
DIANE M. BARRETT,† D. E. BRYANT,* R. FORD DENISON,* AND
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Agriculture Ecosystems & Environment

Agriculture, Ecosystems and Environment 74 (1999) 19-31

The ecological role of biodiversity in agroecosystems

Miguel A. Altieri*

Department of Environmental Science, Policy and Management, University of California, 201 Wellman, Berkeley, CA 94720, USA

Abstract

Increasingly research suggests that the level of internal regulation of function in agroccosystems is largely dependent on the level of plant and animal biodiversity present. In agroccosystems, biodiversity performs a variety of coolingical services beyond the production of food, including recycling of nutrients, regulation of microclimate and local hydrological processes, suppression of undersibed organisms and destorification of nosions chemicals. In this paper there for flowidnestry in security corp protection and soil fertility is explored in detail. It is argued that because biodiversity mediated renewal processes and ecological services are largely biological, their persistence depends upon the maintenance of biological integrity and deversity in agroccosystems. Various options of agroccosystem management and design that enhance functional biodiversity in crop fields are described. (1999 Elsevier Science B.V. All rights reserved.

Keywords: Agroecology; Antagonists; Biodiversity; Biological control; Organic farming; Sustainable agriculture; Traditional farming

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.



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

Ecology 2005 42, 261–269

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

JANNE BENGTSSON, JOHAN AHNSTRÖM and ANN-CHRISTIN WEIBULL*

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 10% 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

Sprechi alimentari per il 10% degli acquisti domestici nel nord del mondo.

Negli Usa si supera il 40%.

The Environmental Impacts of Organic Farming in Europe

Con quanto si butta via si nutrirebbero 150 milioni di persone

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



Fric Arellano Dr LeFebyre Cluster 7 Biomedical Sciences 25 July 2012

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Biology letters Received May 10, 2005. Accepted June 10, 2005. © 2005 The Royal Society

Benefits of organic farming to biodiversity vary among taxa

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Péter Batáry^{1,2}*, Laura Sutcliffe³, Carsten F. Dormann^{4,5}, Teja Tscharntke

1 Agroecology, Georg-August University, Göttingen, Germany, 2 MTA-ELTE-MTM Ecology Research Group, Budapest, Hungary, 3 Plant Ecology and Ecosystem Research Georg-August University, Göttingen, Germany, 4 Computational Landscape Ecology, UFZ Centre for Environmental Research, Leipzig, Germany, 5 Biometry and Environmental System Analysis, University of Freiburg, Freiburg, Germany

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Received 17 September 2003: received in revised form 8 July 2004: accepted 15 July 200-

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.





MAAAS

Soil Fertility and Biodiversity in Organic Farming Paul Maeder, et al. Science 296, 1694 (2002); DOI: 10.1126/science.1071148



Available online at www.sciencedirect.cor ScienceDirect

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AGRICULTURAL AND FOOD CHEMISTRY

Ten-Year Comparison of the Influence of Organic and Conventional Crop Management Practices on the Content of Flavonoids in Tomatoes

ALYSON E. MITCHELL * TYUN-JEONG HONG TEINMI KORT DIANE M. BARRETT, D. E. BRYANT, R. FORD DENISON, AND STEPHEN KAFFKA§



Agriculture Ecosystems & Environment

Agriculture, Ecosystems and Environment 74 (1999) 19-31

The ecological role of biodiversity in agroecosystems

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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 CO₂ di quella emessa, è più resiliente al cambiamento climatico, valorizza le piccole e medie imprese, contribuendo a mantenere vive le campagne.







Soil Fertility and Biodiversity in Organic Farming Paul Maeder, et al. Science 296, 1694 (2002); DOI: 10.1126/science.1071148

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Environment

Agriculture, Ecosystems and Environment 118 (2007) 273-284

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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.



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

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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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R.J. Fuller 1*, L.R. Norton 2, R.E. Feber 3, P.J. Johnson 3, D.E. Chamberlain 1, A.C. Joys 1, F. Mathews 3, R.C Stuart2, M.C Townsend3, W.J Manley4, M.S Wolfe5, D.W Macdonald3 and L.G Firbank2

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

Péter Batáry^{1,2}*, Laura Sutcliffe³, Carsten F. Dormann^{4,5}, Teja Tscharntke¹

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Abstract

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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-polinated vs. non-insect polinated forbs in meadows and wheat fields. Nine landscapes were selected differing in percent intensively used agricultural area (DAI), 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 agenceosystem 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-polinated plants benefit more from organic management than non-insect polinated plants reparalless of agroecosystem type and landscape complexity. These benefits were more pronounced in meadows.

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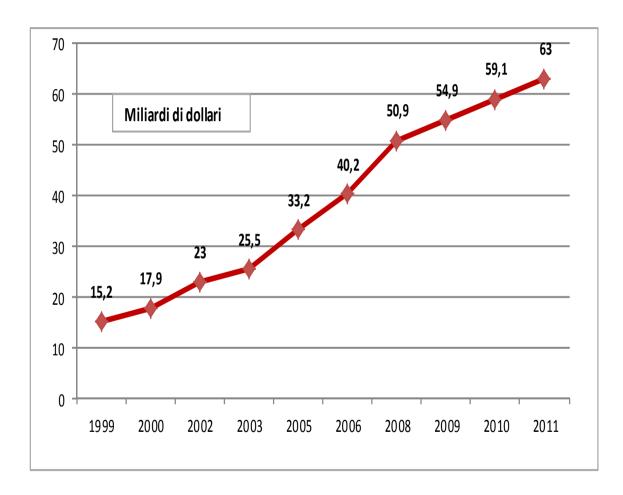
Does organic farming benefit biodiversity?

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

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





Eric Arellano Dr LeFebyre 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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L'AGRICOLTURA BIOLOGICA NON **DEVE ENTRARE NEL DIBATTITO «NUTRIRE IL PIANETA, ENERGIA** PER LA VITA».

DEV'ESSERNE IL FOCUS



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The intendication and expansion of modern agriculture is amongst the greatest current threats to workfordschiedis-restly, Over the last quarter of the 20th centure, of remainst declines in both range and a brandance of many species associated with farminand house been reported in fluropes, leading to growing consern over the assainability of current intensive farming practices. Purportedly "autanable" farming spread as potential solution to this continued loss of biodiversity and receive substantial support in the form of subsidy payments through EU and national government legislation.

The continued of the two costems, in order to determine whether it can delifier on the biodiversity heading its corronness claim.

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?

