



Impact

annual report 2012

LOUIS BOLK
I N S T I T U T E



The institute in the headlines | Sustainability requires looking at the whole system | Research on *truly* sustainable agriculture
A broader view on nutrition and health | Selected publications | Statement of accounts

BOERDERIJ
vandaag

(national agricultural newspaper)

Jan 12 **Better farmer-citizen relation needed to boost sustainability**

Our food should be healthier, and the production of our food should make more use of natural, biological processes. This is the opinion of the Scientific Council for Integral Sustainable Agriculture and Nutrition (RIDL&V), which includes LBI researchers Machteld Huber, MD, and Dr Edith Lammerts-van Bueren.

Nieuwe Oogst.nu (trade journal)

Feb 4 **Extra help for bees**

The Louis Bolk Institute is going to assist farmers in initiatives to protect bees.

groenten & fruit (trade journal)

Feb 29 **Louis Bolk in Africa**

From its local office in Ghana, the Dutch Louis Bolk Institute helps small organic growers to solve problems with soil fertility and crop diseases. "It's a mixture of local and Dutch wisdom," says Willem-Albert Toose, regional manager.

BOERDERIJ
vandaag

(national agricultural newspaper)

Mar 6 **Large-scale study on organic agriculture**

Fifteen research organisations from eleven European countries are joining forces in a European research project on organic agriculture. Wageningen University and the Louis Bolk Institute are the Dutch partners in this project.

Veehouder
veearts (trade journal)

Apr 30 **Web book 'mixed-age dairy herds' online**

Dairy farmers interested in keeping dairy cattle in family groups will gain much information and inspiration from the new web book www.familiekuddes.nl. Commissioned by the Dutch Ministry of Economic Affairs, this web book has been put together by Wageningen University and the Louis Bolk Institute.

The Louis Bolk Institute in the headlines of 2012

In 2012 projects of the Louis Bolk Institute were featured in more than 300 articles in regional and national newspapers, trade journals and magazines. In addition our researchers were regularly quoted in electronic newsletters and on websites.

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the natural source of knowledge

deStentor (regional newspaper)

May 8 **Scientific study into the effect of yoga on stress reduction in breast cancer patients**

The Pink Ribbon Foundation provides financial support to a large-scale scientific study on the effects of a yoga-based stress reduction programme for women with breast cancer. The Louis Bolk Institute examines whether yoga helps to reduce fatigue.

Trouw (national newspaper)

May 15 **Dutch landscape could be even more beautiful**

Farmers and environmental groups often get into each other's way. But both could gain much if they work together. This was shown in a study by the Louis Bolk Institute in the province of Noord-Brabant.

May 22 **Less MRSA bacteria in organic pigs**

According to researchers of the Louis Bolk Institute this is due to the fact that average use of antibiotics is more than 70% lower on organic pig farms, compared to regular pig farms. It is increasingly difficult to control MRSA bacteria with antibiotics.

Trouw (national newspaper)

May 24 **Worms, sorghum and clover to better manage drier soils**

As a result of climate change farmers will increasingly be faced with droughts as well as heavy rains. In Loosbroek (province of Noord-Brabant) 24 farmers are participating in an experiment to 'climate proof' their soils. This project is supervised by the Louis Bolk Institute and the ZLTO Farmers Network.

LEEWARDER COURANT (regional newspaper)

June 16 **The perfect protein source**

Will lupin become the ultimate alternative to soy for the Netherlands? Expectations for this legume are high. Under the supervision of the Dutch Arable Association and the Louis Bolk Institute, field experiments have been set up in Oost-Groningen and Oost-Drenthe to test various varieties.

Trouw (national newspaper)

Sept 4 **Plea for intensive agriculture not well-received**

According to Jan Willem Erisman, Director of the Louis Bolk Institute, it is doubtful whether intensive agriculture has long-term resilience: "The quality of livestock and meat does not gain from the excessive use of antibiotics and the lack of biodiversity."

BOERDERIJ vandaag (national agricultural newspaper)

Sept 6 **Broader study needed on organic food**

"In a study conducted together with Maastricht University we have seen that children fed on organic dairy products have fewer allergy problems. Further research is needed to confirm these preliminary results," says Dr Lucy van de Vijver of the Louis Bolk Institute.

Zorg- en Ziekenhuiskrant (magazine for hospital staff)

Sept 26 **Research award for new health concept**

On 20 September physician and researcher Machteld Huber of the Louis Bolk Institute received the Parel research award of the Netherlands Organisation for Health Research and Development, for her efforts to develop a new concept of health: health is the ability of people to adapt and self-manage in the face of physical, emotional and social challenges of life.

De Telegraaf (national newspaper)

Sept 29 **Relief of PMS**

An exploratory study on the efficacy of homeopathic remedies for the relief of Premenstrual Syndrome (PMS) has produced encouraging results. This calls for a larger, international study. In the Netherlands this study will be carried out by the Louis Bolk Institute, starting 1 October.

de Stentor (regional newspaper)

Oct 1 **Edith Lammerts van Bueren 'Champion of great taste'**

According to the jury her work on tasty organic potato varieties has brought together science and practice. Dr Lammerts van Bueren is senior researcher Plant Breeding at the Louis Bolk Institute.

BOERDERIJ vandaag (national agricultural newspaper)

Dec 6 **Trees for free-range chickens**

Poultry farmers are planting trees to provide sustainable shelter to their chickens in outdoor range areas. The trees provide shade, wood and other harvestable products, and increase biodiversity. This was reported by the Louis Bolk Institute. Together with the Bionext organic association the institute assists the farmers with guidance and advice.

ELSEVIER (news magazine)

Dec 15 **Van Geel joins the LBI**

As from 1 December 2012, Mr Pieter van Geel (61), former Environment State Secretary, is the new Chair of the Supervisory Board of the Louis Bolk Institute.



Truly sustainable agriculture, nutrition and health. This is the motto we formulated in 2012 for our new strategic plan. These words summarize exactly the ambition of our researchers, as well as the societal impact we as Louis Bolk Institute want to achieve. Our institute is valued by the people who know us, but we should reach out to a bigger audience. That's why in 2012 we actively sought out the media to increase the impact and visibility of our work. The fact that the media eagerly picked up our messages and explicitly requested our expertise for a public debate on sustainable food supply, clearly reflects a widely supported call for more sustainability.

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"To achieve true sustainability, you have to look at the system as

Despite – or perhaps thanks to – the economic crisis, people are becoming more aware of their health and local environment. As a counter reaction to globalization and the banking crisis they start looking for local solutions and take control of their own situation. Sales of regional products and organic food are rising. Neighbourhoods are starting community gardens and renewable energy cooperatives. The expertise, experience and systems approach of the Louis Bolk Institute fit in well with this new social movement.

Inextricably links

I look back on 2012 as a very inspiring first year of my directorship of the Louis Bolk Institute. Up until one year ago, I had only limited experience with the systems approach. In my earlier jobs I was mainly concerned with environmental issues and the ecological

dimensions of sustainability. But at the Louis Bolk Institute we all share the vision that agriculture, nutrition and health are inextricably linked. More than ever before I realize that, to achieve true sustainability, you have to look at the system as a whole. You cannot have true health without truly sustainable agriculture and nutrition.

Pioneering research

The systems approach is the innovative strength of the Louis Bolk Institute. For example, in our vision there is no separation between agriculture and nature conservation. That's why we succeed in bringing together farmers, nature organisations and governments in pioneering projects. While these groups have different – and sometimes conflicting – interests, our projects motivate them to really work together. Furthermore, we challenge existing paradigms and are not afraid to undertake studies that 'regular' science might consider 'not done'. For example,

a whole"



we do research on the evidence-based effectiveness and feasibility of complementary and alternative therapies. It is what patients want – which is a valid reason for us to take on such projects.

Corporate Social Responsibility

The added value of the Louis Bolk Institute and the way we work is appreciated far and wide. However, public funding for research is under pressure. For about half of our projects we depend on the government, and they are facing substantial budget cuts. The institute has already taken the first blows. In 2012 we had to close the Uganda office; all our international activities are now coordinated from our Ghana office. In addition, our Agriculture department had to slim down. But our Health and Nutrition department has grown.

If we are to remain successful in securing research funding, we must improve our visibility to other funding organisations and

enhance our commercial skills. This requires, firstly, that we become a leader in Corporate Social Responsibility (CSR). We are realizing this through 100% sustainable purchasing and promoting environmental awareness and a healthy lifestyle among our staff. Secondly, it requires that we continue to build our organisational strength. In our strategic plan we have committed ourselves to promote synergy and teamwork within our organisation, so that we can take on bigger projects. In this context we are also exploring the international market for the Louis Bolk Institute. The work we do in the Netherlands and Ghana is relevant in any part of the world. The call for true sustainability is a global one. We're ready for it!

Prof. Jan Willem Erisman
Managing Director

More information
about our CSR policy:
www.louisbolk.org/csr



Demo project strip-tilled maize 2011-2013

Sowing maize directly into grassland or stubble of a previous crop with a strip tiller has many benefits for the soil. This new method, which is already used on 750 ha in the Netherlands, was pioneered by a dairy farmer and is now being fine-tuned in collaboration with the Louis Bolk Institute. A key benefit is that soil structure and soil bearing capacity are preserved because the field is not ploughed. This leads to better harvesting conditions, particularly on heavy clay and peaty soils – even in wet years. Furthermore, nutrients are used more efficiently, as manure is applied only to the rows. Thus the impact on soil organisms is lower, while nitrate leaching is reduced. Given the stricter regulations for fertilizer use, this is an important benefit. Together with agricultural contractors, mechanical engineers, farmers and suppliers, our researchers are working hard to optimize the technique, so that more farmers can make use of this profitable, sustainable method.

Better farming with biodiversity in Drenthe | 2010-2013

With assistance from the Louis Bolk Institute, twenty arable farmers in the province of Drenthe are working on the quality of their sandy and reclaimed peat soils. Their objective is to improve soil structure, water availability, and soil disease suppressiveness. Optimal use of these 'ecosystem services' will reduce the use of fertilizers and pesticides. An important part of this project is the exchange of knowledge and experience between farmers. To facilitate this we have organised eight study meetings, ten field days, and a course on sustainable soil management. During the field days, farmers and researchers together examine the effects of compost, green manures and tillage methods on soil quality. They also take soil samples to analyze the number of nematodes, fungi and bacteria. This way farmers gain more insight into soil processes. The project is conducted in collaboration with HLB Research and Consultancy, and is funded by the province of Drenthe.



Working on sustainable cocoa supply chains | 2008-2016

The ABOCFA project (400 cocoa farmers, 13 villages, 500 tonnes of cocoa) is a good example of how our African office, the Agro Eco-Louis Bolk Institute (AE-LBI), works together with all parties in the supply chain. Our staff in Ghana have set up the cocoa farmers' organisation, improved cocoa production systems, and prepared the certification process. The objective for the coming years is to further increase the sustainability of the cocoa ecosystem. In addition, our advisers will work with community members to improve the quality of education and nutrition. One of the buyers of the Ghanaian organic-Fairtrade cocoa is Tony's Chocolonely. This company works with AE-LBI to improve the living and working conditions of cocoa farmer families. This is not the first time that we work for Tony's. For example, our study on the sustainability of chocolate drinks led to the introduction, in 2012, of Tony's organic-Fairtrade chocolate milk with Ghanaian cocoa in Dutch supermarkets.

Research into *truly* sustainable agriculture

How to prepare for climate change? How to create added value through integrating agriculture and nature? These are the kinds of questions for which the Louis Bolk Institute develops practical and sustainable solutions, in close collaboration with farmers. In 2012 our researchers were involved in more than 130 projects, four of which are featured in this report.



Reintroducing Lupin in the north-east peat district | 2011-2013

The loss of tropical rainforest and biodiversity due to large-scale soy production for animal feed has put imported soy in a bad light. Therefore the demand for European-grown legumes is rising. Lupin is a promising alternative to soy: it has a high nutritional value, and is a perfect rotation-crop because it fixes nitrogen and increases soil phosphate availability. The Louis Bolk Institute has been working on the reintroduction of lupin in the Netherlands since 2004. Following a pilot study, the present project in the north-east peat district has been set up to screen varieties, optimize the cropping system, and work with the industry to develop the market for human consumption (bread, vegetarian meat). The first result is 25 ha of organic lupin for contract production. In collaboration with Enkco Foodgroup the first 10 ha of conventional lupin for contract production will be realized in 2013. As the demand for lupin for animal feed is also increasing, the total production area will be growing from 75 ha in 2012 to 100 ha in 2013.



Health effects of a paleolithic diet 2011-2013

In genetic terms our bodies have not changed much since the Stone Age. But our present food habits are completely different from the hunter-gatherer diet of that time. This may be an important cause of Western diseases such as obesity. In a joint project with the universities of Groningen, Wageningen and Girona (Spain), the Louis Bolk Institute studied the influence of diet on waist circumference, blood pressure, blood glucose and cholesterol. For two weeks 34 adults with increased risk of cardiovascular disease or diabetes received all their meals through a catering company. One half of the group got 'paleolithic meals' based on vegetables, meat, fish, eggs, nuts and fruits, without grains or dairy products. The others received meals prepared according to the guidelines of the National Nutrition Centre. The results will be published by the end of 2013 in a scientific journal. The project is featured in a documentary film and book with recipes and background information. See also: www.louisbolk.org/paleo

Integrative Medicine in practice 2011-2014

A majority of patients with chronic joint problems use complementary therapies, but do not discuss this with their general practitioner. In a study commissioned by the Dutch patient forum for complementary care (PPCG), the Louis Bolk Institute is developing an integrative approach to enable patients to choose – in close consultation with their GP – the care that best fits their needs. This can be conventional or complementary care or both, as long as it meets the criteria of safety, quality and efficacy. The first part of this study, which surveyed 416 patients with rheumatism, arthritis and/or fibromyalgia, showed that 91% of patients prefer that their GP takes the initiative to inform them about complementary care. These results were published in the scientific journal *Patient, Education and Counseling* in October 2012. This study is a joint project of the Louis Bolk Institute, the Van Praag Institute, healthcare organisation *Zorgbelang Groningen*, and health insurance company *Menzis*.



A broader view on nutrition and health

In 2012 the Louis Bolk Institute collaborated in more than 30 studies investigating the effects of diet, lifestyle, and integrative medicine. In this annual report we highlight four of these projects.



A new Concept of Health 2009-2013

'Health is the ability of people to adapt and to self-manage in the face of physical, emotional and social challenges of life.' This new concept of health has been developed by the Louis Bolk Institute. It is an adaptation of the definition used by the World Health Organisation (WHO). Coined in 1948, the WHO definition defines health as a 'state of complete well-being', which implies that practically no one is healthy. This has unintentionally contributed to medicalisation of health care. In the new concept the emphasis is shifted to aspects such as resilience, mental fitness and social participation. Project leader Machteld Huber, MD, who received the *Parel* award of the Netherlands Organisation for Health Research and Development (*ZonMw*) for this project, speaks of 'positive health.' In 2014 Huber hopes to operationalize this new concept. The new concept has received much international attention. It was the Editor's Choice and cover story of the British Medical Journal (BMJ).



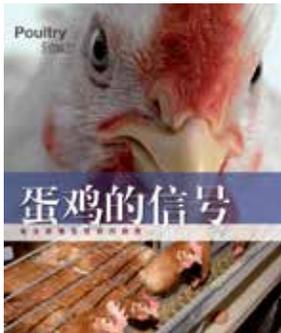
Healthy nutrition for the elderly 2011-2012

The Louis Bolk Institute has conducted a one-year study on the effect of healthy meals in elderly at the *Insula Dei Huize Kohlman* nursing home in Arnhem. In this study residents were served meals prepared with mainly organic, regional products. Extra attention was paid to flavour and ambiance. Health parameters were measured before, as well as six months and one year after the introduction of the new meal concept. During this period no significant changes in body weight and Body Mass Index (BMI) were found. However, risk of malnutrition appeared to have decreased. In addition, the use of energy-enriched meals and other diet products had decreased considerably. Meal experience, sense of taste and satisfaction of the participants improved, and there were fewer reports of physical complaints right after the meal. Therefore our researchers recommend that elderly care homes pay more attention to meal quality and ambiance.

Selected publications 2012

LOUIS BOLK
INSTITUTE

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Burgt, G.J.H.M. van der, M. Bus. 2012. **PlantyOrganic; Design and results 2012.** Report 2012-048 LbP. Louis Bolk Institute, Driebergen. 37 p. [🌐](#)

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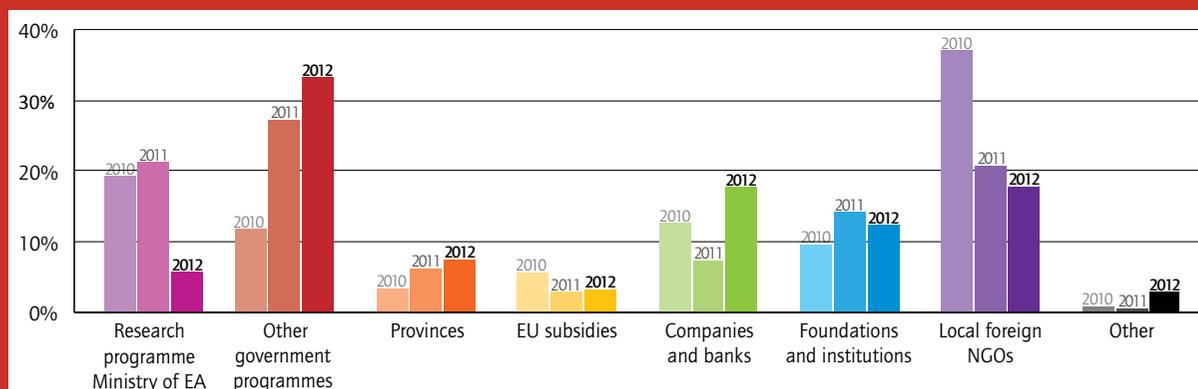
Huber, M.A.S., M. Bakker, W. Dijk, H. Prins, F. Wiegant. 2012. **The challenge of evaluating health effects of organic food; operationalisation of a dynamic concept of health.** Journal of the Science of Food and Agriculture. 92(14):2766-2778. [🌐](#)

Statement of accounts 2012

2012 Statement of revenue and expenditure (x €1,000)

	Actual 2012	Actual 2011
Revenue from projects and subsidies	4,566	5,643
Subcontracting costs	- 1,636	- 2,077
Net revenue from projects and subsidies	2,930	3,566
Revenue from fundraising	14	9
Donations and other revenue	128	24
Total revenue	3,072	3,599
Wages and salaries	2,275	2,527
Social security contributions	344	318
Depreciation of intangible and tangible fixed assets	28	68
Other operating costs	471	444
Total expenditure	3,118	3,357
	- 46	242
Financial revenue and expenditure	- 2	- 1
Net result	- 48	241

After the positive result of 2011 the Louis Bolk Institute closed the financial year of 2012 with a net loss. This loss is mainly due to a lower number of government-funded projects due to budget cuts, the ending of a large long-term research program, and a decline in the number of projects in Africa. The decrease in revenue was partly compensated by a decrease in expenditure, thanks to lower personnel costs as well as lower depreciation expenses and other operating costs. However, social security costs did increase slightly. These annual figures refer to the consolidated annual statement of the Louis Bolk Institute Foundation, and have been approved by the Supervisory Board. The auditor's report on these figures has been completed by Stolwijk Kelderman Accountants. The consolidated loss of the LBI Foundation for 2012 is -/€ 47,598 (for 2011: + € 240,880).



Distribution of revenues according to funding source (2010-2012)

From the Supervisory Board

In 2012 the Louis Bolk Institute experienced quite a few changes. In February, Professor Jan Willem Erisman took office as the new Managing Director. In September, Antal Maasland M.Sc. was appointed as the new Business Operations Manager. And in December, Pieter van Geel M.Sc. became the new Chair of the Supervisory Board. We sincerely thank Hanno Niemeijer M.Sc. for his excellent chairmanship of the Supervisory Board during 2007-2012. He is staying on for one more year as a Board Member.

The Louis Bolk Institute is feeling the effects of the economic crisis. The Dutch government, a major financial contributor to the institute, has to make substantial budget cuts. Moreover, due to the new 'top sector policy' a greater share of the budget is allocated to large, publicly funded knowledge institutes. As the international division of the Louis Bolk Institute was operating at a loss, the Uganda office had to be closed. A new international strategy has now been formulated. The Louis Bolk Institute closed the year 2012 with a net loss. Given the market conditions this result was not unexpected. Financial continuity remains an important concern for the coming year.

Apart from these concerns, the Supervisory Board is extremely pleased with the achievements of the institute and its researchers. The institute has strengthened its identity, and has produced strong research results that have societal impact. As was also shown by its participation in the public debate on health, nutrition and sustainable agriculture, the institute – with its unique, practice-based systems approach – has significant influence on the way people think and act in relation to sustainability.

The Supervisory Board follows these developments and achievements with interest, and encourages further professionalization of the institute. We are also making sure that the international projects contribute to the continuity of the institute as whole. Furthermore, we have updated the

regulations that define the powers and responsibilities of the Supervisory Board and the Management Board, and the relationship between these two boards.

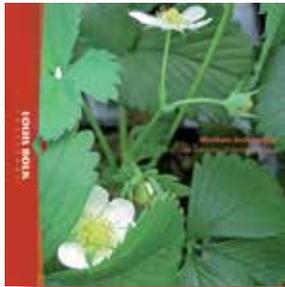
We are pleased that the institute has defined a clear mission and identity in its new strategic plan. This plan focuses on building organisational strength and promoting synergy and teamwork.

A delegation of our Board –consisting of Professor Akke van der Zijpp and the chairman– maintains relations with the Staff Council. This is a valuable contact, because it allows us to gauge the opinions and sentiments among the institute's staff.

The Supervisory Board looks back on 2012 as a year in which the Louis Bolk Institute achieved its objectives through pioneering research and tangible, directly applicable results. Thanks to this work, farmers, nature managers and health-care professionals are provided with concrete solutions for increasing the sustainability of their activities. We are looking to the future with confidence!



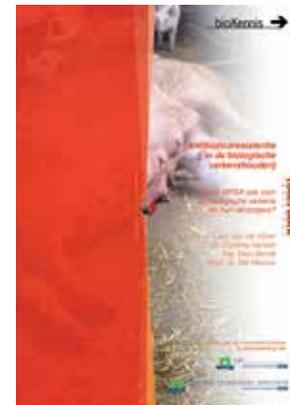
Pieter van Geel M.Sc.
Chair of the Supervisory Board



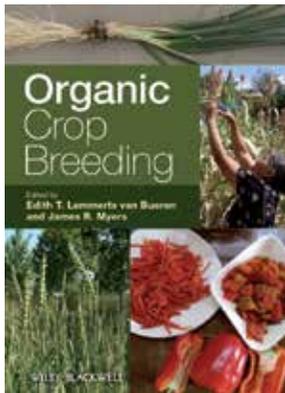
Tiemens-Hulscher, M., E.T. Lammerts van Bueren, P.C. Struik. 2012. **Selection strategy to develop nitrogen efficient organic potato varieties: manual for (small) breeders**. Report 2012-043 LbP. Louis Bolk Institute, Driebergen. 32 p. [e](#)

Janmaat, L., W.J.M. Cuijpers. 2012. **Guide to a resistant soil**. Louis Bolk Institute, Driebergen. 12 p. [e](#)

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The Netherlands:
Hoofdstraat 24
NL - 3972 LA Driebergen
T + 31 (0) 343 523 860
F + 31 (0) 343 515 611
info@louisbolk.nl
www.louisbolk.org



Africa:
Christman House
PMB KA 84 Airport
Accra, Ghana
T + 233 (0) 302 786 097
F + 233 (0) 302 786 154
westafrica@louisbolk.org
www.louisbolk.org

