

CORE Organic Country Report



Research in Organic Food and Farming in The Netherlands

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Photo: www.biologica.nl/beeldbank; Biologica is the Dutch umbrella organisation for organic farming and food.

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1 History

The cultivated area under organic farming in the Netherlands is rather small (i.e. 2.2%) compared to the European average. The organic sector in the Netherlands is relatively young. The regulatory framework for (independent) control and certification of the cropping sector only exists since 1992 with the EU regulation 2092/91. It was expanded in 2000 with the regulatory framework for the animal sectors (EU regulation 1804/1999). With this clear legal status and with harmonised definitions the organic sector is in a better position to participate in the already existing national knowledge infrastructure. The Ministry of Agriculture, Nature and Food Quality (LNV) in the Netherlands has funded research on organic agriculture since the eighties, mostly directed toward crop production. Research on organic pig husbandry and poultry only started in 2002.

In 2001, the Ministry of Agriculture, Nature and Food Quality produced her policy on organic agriculture, aiming at a market oriented organic production. The main objective presented in this policy document is that 10 % of the total cultivated agricultural area will be under organic farming in the Netherlands by the year 2010. One of the policy instruments to be applied to reach this objective is research on organic production. This policy resulted in an increase in organic farming research funding by the Ministry from 3 million in 1999 to over 10 million in 2003.

In 2004, this policy on organic agriculture was evaluated. The evaluation included results of research and knowledge efforts and a new policy document for the period 2005-2007 was approved by Parliament. The new (or prolonged) policy ambitions are:

- 10 % of the total cultivated area will be under organic farming by 2010
- market share of organic products will be 5 % of total consumer spending by 2007
- the innovative strength of the organic production sector concerning sustainability will be enlarged by 2007.

Knowledge (development, dissemination, distribution, extension, demonstration and implementation) remains to be an important instrument to fulfil these policy ambitions. However, there will be a shift from knowledge development toward knowledge dissemination in the period covered by the current policy. Organic farming may serve as a showcase of the innovative power to improve sustainability and may inspire implementation in conventional farming practice.

Until recently, public funded research mainly focussed on primary production, as most problems were related to technical imperfections. This effort had a positive effect on organic production, but had no effect on consumer behaviour and thus did not make the sale of organic products concomitantly increase. The governmental policy, to aim at a market oriented organic production however, demands a shift towards more knowledge on chain and produce related issues i.e. consumer awareness, food safety and food quality and appropriate production costs. Fitting organic farming systems into the rural environment or even into urban life also needs a shift in focus of research towards a multifunctional approach. This implies a shift from an approach with pure exact sciences towards an approach with exact and social sciences combined. Researchers will work in teams with different expertises, varying from technical experience to social-economic skills. The research groups consequently consist of researchers from different research institutes and universities, guaranteeing a systemic and holistic approach.

2 Organisation

The Ministry of LNV provides most of the necessary funds for research in Organic Food and Farming. Within the Ministry of LNV in 2005, several so-called sectoral 'Cluster Boards' are set up, including one for organic agriculture. These Cluster Boards deal with all research related issues.

Within the policy objective of increasing the area under organic cultivation, the organic production sector has been given a major role in proposing how and where to spend the financial resources. Ultimately the Cluster Board within the Ministry of LNV makes all final decisions, after

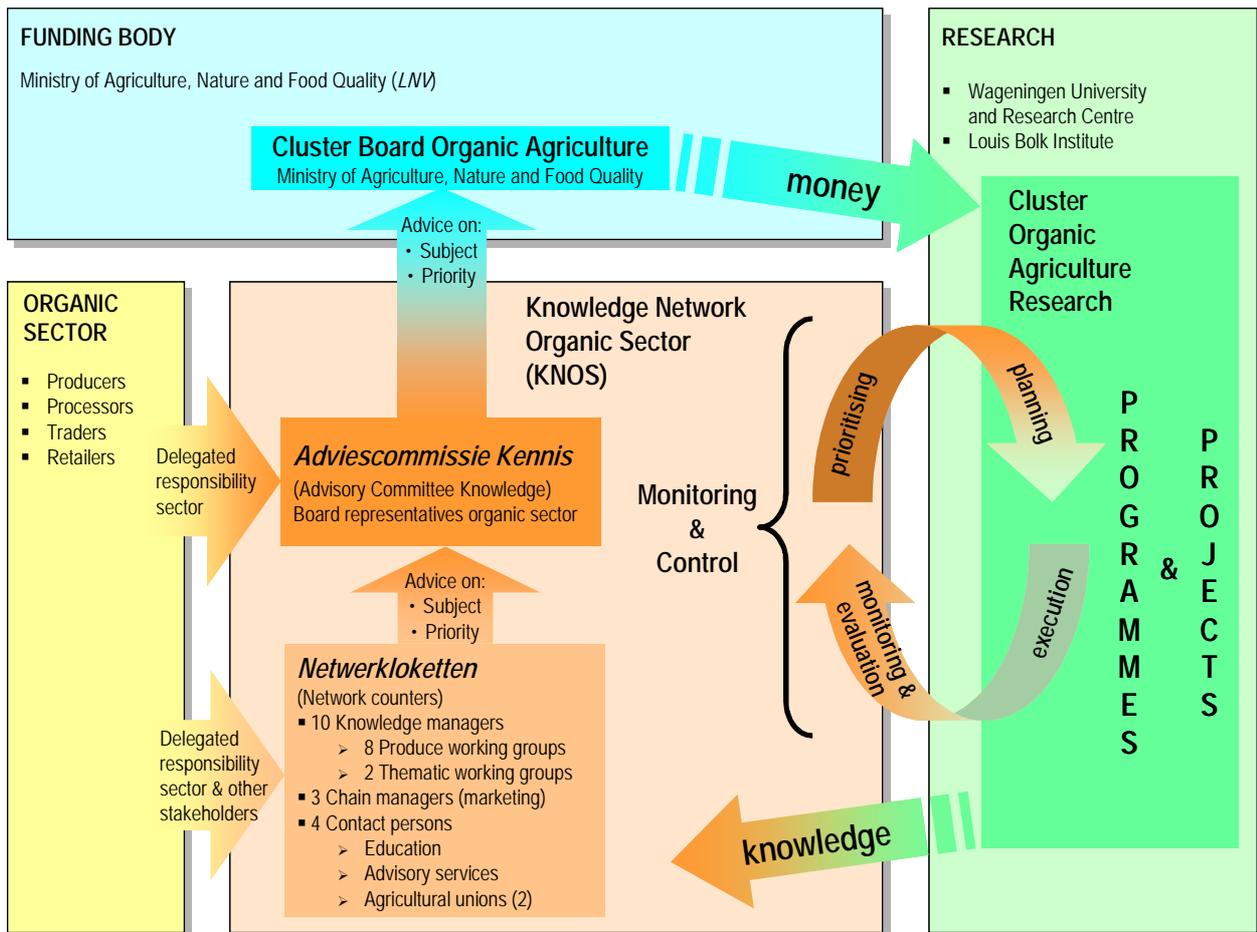


Figure 1. Schematic impression of the demand driven organization of publicly funded specific organic research in the Netherlands.

having established that eventually the generated knowledge contributes to the policy objectives. In this way, organic research in the Netherlands is strongly demand driven.

2.1 Situation as from 2006

Figure 1 gives an impression on how organic research in the Netherlands is organized starting in 2006. Note: this scheme only applies to the publicly funded specific organic research.

Key body in the scheme is the recently instituted Knowledge Network Organic Sector, with the given name Bioconnect (KNOS in Figure 1). All relevant stakeholders from the organic sector are represented in this Network. On a yearly basis, Bioconnect makes recommendations to the Ministry of LNV – organised in the Cluster Board Organic Agriculture – on the subjects and priorities to be set for research in organic agriculture. In general, the Cluster Board, which has the final decisive power, will adopt the recommendations and direct them to the manager of the Cluster Organic Agriculture Research.

The Bioconnect system is financed by the Ministry of LNV for a large part, because of its instrumental role in defining research priorities.

The recommendations of Bioconnect are based on input from the organic agricultural sector (knowledge demands) and on the monitoring and evaluation of ongoing research activities (knowledge supply). Decision making on research subjects and priority setting takes place at two levels: a detailed level and a board level.

The detailed level is covered by several so-called *Netwerkloketten* (Network Counters). These are the gathering places where sector and trade stakeholders put forward their problems (i.e. knowledge gaps) in further developing their organic agriculture activities. On a subject basis these *Netwerkloketten* discuss the details of knowledge demands, project proposals, the projects being

carried out, research results and the final knowledge dissemination, with representatives of the research institutes. Each Counter then lists these knowledge problems and makes a recommendation on which of them still needs to be solved through research, assigns priority to each, and forwards the whole lot to the *Adviescommissie Kennis*.

The *Adviescommissie Kennis* (Advisory Committee Knowledge) sorts out the input provided by the respective *Netwerkkloketten*. The Committee establishes the subjects and priorities to be presented in its recommendations to the Cluster Board Organic Agriculture.

The major part of the Dutch research effort in organic agriculture is carried out by Wageningen University and Research Centre and by the Louis Bolk Institute, often in close cooperation. For management purposes, all specific organic research is grouped and coordinated by a research “cluster manager” acting as the research representative towards both the Ministry of LNV and Bioconnect. The research cluster encompasses several major organic research programmes.

2.2 Historical situation

Until 2006, every research programme is monitored and controlled by a programme specific supervisory committee. These committees are chaired by a LNV representative and staffed by representatives of regional governments (provinces), the organic farming sector and other stakeholders based on their subject matter knowledge and their involvement in the programme. This organization can be characterized as complete but not very efficient in situations with more than one research programme covering a whole sector as in organic agriculture (see table 1). It produces a huge workload for the Ministry and to a lesser extent also for the other members. In the new situation as described above, much of the workload is shifted from the Ministry to the organic sector (Bioconnect).

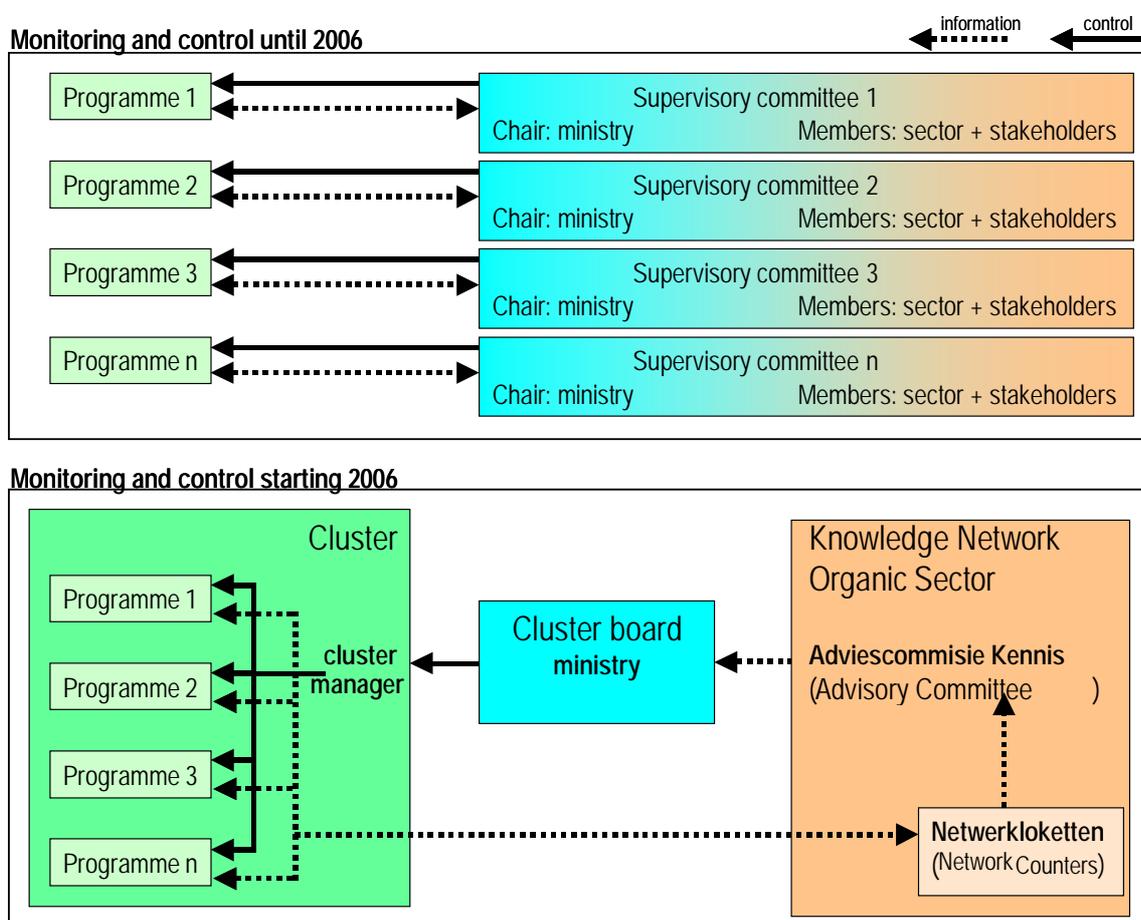


Figure 2. Monitoring and control. Organization of (organic agriculture) research in the Netherlands before and after January 2006.

Figure 2 shows the present and future organization of monitoring and control. Important differences are (1) reduction in the number of supervisory meetings; (2) reduction of necessary ministry staff; (3) clear differentiation in the purpose of meetings and the level of detail; (4) better overall view on the developments in the organic sector; and (5) less flexibility for topical events.

2.3 Stakeholders

All primary stakeholders, being members of the organic production and supply chain (production, processing, marketing and sales) and thus directly dependent on a flourishing organic sector, are represented in the *Netwerkkolletten* of Bioconnect.

Important primary stakeholder parties are:

- Biologica, sectoral policy and advocacy organisation, which lobbies Government, coordinates sectoral initiatives aimed at improved cooperation in marketing chains, and coordinates the sector's research agenda priorities through its *Adviescommissie Kennis*. Biologica is also involved in many activities of information to consumers.
- *Vereniging van Biologische Producenten* (VBP). Association of Organic Producers: uniting a substantive proportion of the organic sector's importers, processors and traders.
- *Vakgroep Biologische Landbouw* of the *Land- en Tuinbouworganisatie Nederland* (LTO), the forum of organic producers within the National Farmers Union.
- *Centraal Bureau Levensmiddelen* (national organisation of retailers)

Secondary stakeholders, being members of the knowledge chain, are also represented in the *Netwerkkolletten*. Secondary stakeholders can be seen as facilitators of the primary stakeholders, or are service providers. They comprise of:

- Ministry of Agriculture, Nature and Food Quality (LNV), as advisor
- *Platform Adviesdiensten Biologische Landbouw* (farm advisory services in organic agriculture)
- *Kenniskring Onderwijs Biologische Landbouw* ('green' education)
- Taskforce Market Development Organic Agriculture
- *Stichting Agro Keten Kennis* (AKK) (supply chain facilitator)

Although the research establishment could well be regarded as a secondary stakeholder also, representatives of research institutes are formally not present in the *Netwerkkolletten*. It would potentially constitute a conflict of interest if they were.

The public authority, i.e. the Ministry of LNV, is a major stakeholder but her interests are expressed outside the structure of Bioconnect, through the Cluster Board Organic Agriculture, within the Ministry.

2.4 Research Institutes

Two institutions are responsible for the major part of organic research in the Netherlands:

a) Wageningen University and Research Centre (Wageningen UR)

Wageningen UR is a holding of the Wageningen Agricultural University, the Larenstein Agricultural College and a number of agricultural research institutes, both at the strategic and applied level. Wageningen University offers a vast number of full academic BSc, MSc and PhD programmes in all life sciences.

Coordination of organic agricultural research within Wageningen UR is conducted by the *Innovatiecentrum Biologische Landbouw* (IBL - Innovation Centre Organic Agriculture). See for more details <http://www.ibl.wur.nl> and <http://www.biologischelandbouw.net>.

IBL coordinates, stimulates and initiates the development and integration of knowledge on organic agriculture and food within Wageningen UR and where possible, beyond. Its main target groups in the Netherlands are researchers, policy makers, members of the production chain, students and teachers in middle and higher education, advisory/extension services and social organisations with an interest in sustainable agriculture. Within the international context IBL mainly targets research organizations. It also assists the Ministry of LNV in its CORE Organic activities.

The following institutes and/or entities of Wageningen UR are involved in organic agricultural research:

- **Agricultural Economics Research Institute of Wageningen UR (LEI)** is a leading institute for social and economic research on agriculture, horticulture, fisheries, forestry and rural areas. The LEI's focus at both national and international level is the increasing integration of agriculture and agribusiness with the social environment.
- **Agrotechnology & Food Sciences Group (AFSG)** is the organisation for knowledge development and knowledge transfer in the field of sustainable applications for safe food and non-food products. AFSG creates, by combining expertises, inspiring options and concrete solutions in close cooperation with the Government, business and industry. AFSG unites, as of December 2005, the Department of Agrotechnology and Food Science and the organisation for Agrotechnology and Food Innovations.
- **Alterra** - Research Institute for the Green World of Wageningen UR offers a combination of practical and scientific research in a multitude of disciplines related to the green world around us and the sustainable use of the living environment. Flora and fauna, soil, water, the environment, geo-information and remote sensing, landscape and spatial planning, man and society are a few of the numerous aspects of the green environment Alterra focuses on.
- **Animal Sciences Group (ASG)**: Its research and education covers the entire animal production chain (including fish culture, fisheries and companion animals) and is done on an international scale. ASG is able to tackle their client's individual problems by calling on the expertise of the best and most appropriate group through intensive collaboration between science, application and practical experience and through interaction of all the disciplines.
- **Applied Plant Research (PPO)** is the leading Dutch organisation for applied research in arable farming, multifunctional agriculture and outdoor vegetable growing, bees, flower bulbs, nursery stock, fruit, greenhouse horticulture and mushrooms. PPO aims at co-innovations with partners from the different agricultural sectors, sciences, industry and Government. PPO analyses together with clients, questions regarding farm and crop management and translates these into applied research and development programmes.
- **Plant Research International (PRI)** integrates knowledge in the fields of genetics and reproduction, crop protection, crop ecology and agricultural systems. Thus, Plant Research International offers a host of perspectives to industry, agriculture, horticulture and agro-ecosystems linked to farm management and nature development.
- **RIKILT - Institute of Food Safety** evaluates food quality and safety. This covers food constituents, agro-chemicals, environmental contaminants and natural toxins. It conducts fundamental-strategic and applied research for national and international governments, as well as industries and supports the policy of the Dutch Government with research and advice. RIKILT also has expertise on quality and supply chain management needed to improve production processes and product quality in the agro-industry.

b) Louis Bolk Institute (LBI)

The Louis Bolk Institute is a forerunner and initiator in fields of research unique on: homeopathic medicine, organic farming and organic food. It sees an intimate connection between farming, food and human health. LBI's research draws upon the valuable knowledge and experience of innovative practitioners – farmers, doctors and therapists. What these people demonstrate in their work is then extrapolated to a wider overall context, systemised, and scientifically underpinned. It thereby contributes to solutions that benefit the system as a whole. All this is bound by its search for health and quality of the overall system: its vitality and its capacity for self-regulation. LBI defines 'quality' as the extent to which a product expresses the intrinsic nature of a plant or animal.

3 Mapping research programmes

Research programmes in organic agriculture in the Netherlands can be divided into two categories:

1. Policy and legislation related projects in which the end-use of the research result is input into Dutch policy development and /or Dutch positioning in the EU legislative context.
2. Commodity and farm related projects in which the goal is to further develop the organic agricultural sector, targeting all components of the production and supply chain.

Although the number of policy and legislation related projects shows a big increase over the last few years, thereby giving extra support to (inter)national policy development and the policy related legislation, in the context of CORE-Organic this Dutch country report mainly focuses on commodity and farm related research.

Off-farm commodity related subjects (chain, market and consumer, food safety and food quality) are given more priorities since 2002. Still the slowly reducing number of farm enterprise related projects uses almost thirty percent of the total research budget. Themes comprising more technical farm disciplines show a distinct priority shift from Living Propagation Material and Resistance Breeding to Plant Protection and Weed Control. Table 1 presents the list of ongoing and recently ended research programmes.

Due to further urbanization one expects agriculture to diversify into small-scale, regional oriented farming on one the hand and large scale, global market oriented farming on the other hand. It requires a strategic vision on the transition to a production system that is more integrated in social life, well equipped to follow global trade and sustainability in the sense of People, Planet and Profit. At the same time, this production system has to deal with global warming and concomitantly upcoming water stress and drought.

From the perspectives of the general policy of the Ministry of Agriculture, Nature and Food Quality and its specific policy on organic agriculture, the following areas of research need more attention in the next years (2005-2007) and - to our opinion - have high potential for cooperation on European level:

1. Food and feed quality and safety ((myco)toxins, heavy metals, residues)
2. Desirable food characteristics with respect to health
3. Simplification of legislation
4. Consistence in certification legislation
5. Impact of organic farming on the rural environment, regional aspects
6. Function of organic farming at the periphery of urban conglomerates

Dutch funding of transnational research in general will be restricted to research into these areas. The Dutch contribution to the common pool in CORE organic will depend on national approval. This concerns the subjects chosen for transnational cooperation and the programme and project proposals (including the budget) based on those subjects.

Table 1. Publicly funded organic research programmes.

Programme Title	Acronym	99	00	01	02	03	04	05	06	07
Weed Control	343 *	x	x	x	x					
New Animal Husbandry Systems	348 *	x	x	x	x					
Natural Resistance (Animals)	349 *	x	x	x	x					
Organic Production Systems in Arable Crops and Open Field Vegetables	342	x	x	x	x					
Organic Plant Breeding	342b		x	x	x	x				
Entrepreneurship and Market (Phase 1)	374 *		x	x	x	x				
Animal Husbandry (Phase 1)	PO-34		x	x	x	x	x			
Plant Propagation Material	388-I			x	x	x	x			
System Innovation Open Field Crops	BO-04-400 I				x	x	x	x		
System Innovation Protected Crops	BO-04-400 II				x	x	x	x		
Umbrella Programme	BO-04-401 I				x	x	x	x		
Crop Protection	BO-06-397 *				x	x	x	x		
Reducing Mineral Losses	BO-05-398 *				x	x	x	x		
Sustainable Multifunctional Farming Systems	400 V *				x	x	x	x		
Intersectoral Cooperation	BO-04-401III					x	x	x		
Co-innovation Programme Organic Marketing Chains	423 *					x	x	x	x	
Reducing Disease Burden of Phytophthora infestans	427 *					x	x	x	x	x
Entrepreneurship and Market (Phase 2)	433 *						x	x	x	x
Plant Breeding	BO-04-388 II						x	x	x	x
Animal Husbandry (Phase 2)	BO-04-002							x	x	x

* only partially organic

4 Financing

The Netherlands' Ministry of Agriculture, Nature and Food Quality mainly fund research programmes.

Table 2. Financial overview of organic research by Wageningen UR and the Louis Bolk Institute in 2000 - 2004 according to themes in EUR x 1000.

Theme	2000	2001	2002	2003	2004	total
1 Farming systems	2,139	2,840	3,657	4,362	3,486	16,484
2 Animal husbandry	568	684	794	1,489	1,373	4,907
3 Crop husbandry	1,709	3,235	5,209	5,255	4,970	20,377
4 Soil	0	0	85	85	85	255
5 Environmental aspects	0	0	85	85	85	255
6 Food systems	72	254	257	722	327	1,632
7 Values, standards and certification	19	37	12	22	28	118
8 Knowledge management	149	159	458	462	322	1,550
total	4,656	7,209	10,556	12,481	10,676	45,578
% Wageningen UR	92,7	89,9	94,5	94,4	94,9	93,7
% Louis Bolk Institute	7,3	10,1	5,5	5,6	5,1	6,3

Period 2000 – 2004

Table 2 gives an overview of the organic research programmes and their annual budgets according to the main themes in Organic Eprints. Many research programmes focus on developing and optimising farming systems in animal husbandry and in crop husbandry. Within these programmes aspects of soil and environment are also covered. For pragmatic reasons the budgets of these systems innovation like programmes is divided over only the first three themes. This explains the relatively low budgets spent on the themes soil and environmental aspects.

Table 3. Financial overview of ongoing organic research programmes by Wageningen UR in 2005 in EUR x 1000. For more detailed information see Organic Eprints.

Acronym	Programme Title	Budget
388-II	Plant Breeding	418
400-I	System Innovation Open Field Crops	1,795
400-II	System Innovation Protected Crops	1,198
BO-04-001	Umbrella Programme	709
401-II	Intersectoral Cooperation	322
BO-04-002	Animal Husbandry (phase 2)	2,158
BO-04-003	Plant Propagation Material (phase 2)	825
433	Entrepreneurship and Market (phase 2)	79
398-I	Reducing Mineral Losses	170
397-II	Crop protection - control measures	286
397-IV	Crop protection - control strategies	264
397-V	Crop protection - innovative weed control	641
427	Reducing Disease Burden of Phytophthora infestans	45
400-V	Sustainable multifunctional farming systems	65
Total		8,974

Period 2005 – 2007

The annual national budget for 2005 until 2008 is approx. 7.5 million EUR for specific organic research. However, some organic subjects are covered by thematic research programmes, which are not specifically organic. This applies i.e. for research on reducing mineral losses, weed control, crop protection, entrepreneurship and market. The annual budget for the organic part of these research programmes is approx. 1.5 million EUR. Table 3 gives an overview of the current research programmes and their budget. In addition, table 4 presents the budgets according to the main themes in Organic Eprints.

Table 4. Financial overview of ongoing organic research by Wageningen UR and the Louis Bolk Institute in 2005 according to themes in EUR x 1000.

Theme	Budget	%WUR	%LBI	Programmes involved
1 Farming systems	2,969	97,6	2,4	400-I, 400-II, 401-II, BO-04-002 + LBI
2 Animal husbandry	1,156	93,3	6,7	BO-04-002 + LBI
3 Crop husbandry	4,124	96,4	3,6	388-II, 400-I, 400-II, BO-04-003, 397, 427 + LBI
4 Soil	85	100,0	0,0	398-I
5 Environmental aspects	150	100,0	0,0	398-I, 400-V
6 Food systems	80	98,8	1,3	433 + LBI
7 Values, standards and certification	4	0,0	100,0	LBI
8 Knowledge management	709	100,0	0,0	BO-04-001
Total	9,275	96,8	3,2	

Research facilities do not directly receive public funds. They are financed through the research activities at these facilities. Since all research facilities (e.g. experimental farms and laboratories) belong to private research institutes, the costs of those facilities are calculated within the required budgets.

5 Research facilities

Research Farms

- *Proef- en Leerbedrijf Droevendaal* in Wageningen is the organic research and education farm of the Plantkundig Proefcentrum Wageningen of Wageningen UR (PPW). It covers 50 ha of which 32 ha is actually available for research and education purposes. The remaining 18 ha consist of permanent pastures and nature. Droevendaal is a mixed farm aiming at a closed cycle. The permanent herd comprises of 65 bull calves from Aver Heino, Centre for Organic Farming, for the production of 'organic young beef'.
- *Aver Heino*, Centre for Organic Dairy Farming, is a research unit of the Animal Sciences Group of Wageningen UR (ASG). The research focuses on all aspects of organic dairy farming.
- *Raalte*, Centre for Sustainable and Organic Pig Farming, is a research unit of the Animal Sciences Group of Wageningen UR (ASG). The organic unit can accommodate 100 breeding sows and 600 growing finishing pigs.
- *Het Spelderholt* is a research unit of the Animal Sciences Group of Wageningen UR (ASG). It has facilities for all kinds of poultry (layers, broilers, turkeys and ducks) and for rabbits. There is also a hatchery. Attention is paid to animal welfare, organic farming, environment, health, feeding, economics, labour and working conditions. One stable has a capacity of 2,000 organic laying hens divided over 8 experimental subunits.
- *Proefboerderij De Noord* is a research unit of Applied Plant Research (PPO), Sector Bulb-growing of Wageningen UR. Beside two integrated farm systems the unit has an organic farm system (3 ha) with several kinds of flowering bulbs, representing the organic bulb-growing farms in the north-west of the Netherlands.
- *PPO Nagele* is a research unit of Applied Plant Research (PPO), Sector Arable Farming, Rural Area and Open Field Vegetables of Wageningen UR. The unit consists of four farming systems:
 - Biodynamic system with arable crops and open field vegetables representing the organic farms in the northern and central clay areas of the Netherlands (22 ha)
 - Bio-intensive system with field vegetables, representing the smaller organic farms (12 ha)
 - Bio-diverse system with optimal use of biodiversity to control diseases and plagues (12 ha)
 - Integrated system with arable crops representing the conventional farms in the northern and central clay areas of the Netherlands (24 ha).
- *PPO Vredepeel* is a research unit of Applied Plant Research (PPO), Sector Arable Farming, Rural Area and Open Field Vegetables of Wageningen UR. Beside an integrated farm system, the unit has an organic farm system (4 ha) representing the organic arable farms in the south-east of the Netherlands with vegetables for industrial processing.
- *PPO Westmaas* is a research unit of Applied Plant Research (PPO), Sector Arable Farming, Rural Area and Open Field Vegetables of Wageningen UR. Beside an integrated farm system, the unit has an organic farm system (1.2 ha) with open field vegetables, representing the more extensive organic arable farms in the south-west of the Netherlands.

- *PPO Prof. Broekemahoeve* is a research unit of Applied Plant Research (PPO), Sector Arable Farming, Rural Area and Open Field Vegetables of Wageningen UR. The farm is used for farm systems research focussing on two factors: low use and no use (organic) of pesticides and production aiming at communities experiencing agriculture and bulk production.
- *Regionaal Onderzoek en Informatie Centrum Kollummerwaard* regional research and information centre of Stichting Proefboerderijen Noordelijke Akkerbouw (SPNA - Experimental Farms Northern Agriculture Foundation). The farm consists of a conventional and an organic unit for the production of arable crops and open field vegetables.
- *Proefboerderij Rusthoeve* is a privatised arable research farm with a conventional and an organic part. The Rusthoeve is also a pilot farm for nature management.
- *Proeftuin Zwaagdijk* is a privatised research farm of the Proeftuin Zwaagdijk Foundation dealing with open field vegetables and bulb cultivation in an organic and in a conventional setting.

Knowledge Networks¹

In the past, knowledge on technical solutions for farmer use was mainly produced at the research centres. Advisers and farmers were instructed on technical improvements within their farm systems and methodologies. It turned out, however, that this knowledge dissemination system was insufficiently tuning to the demand for knowledge of individual farmers. Since a few years, many research activities have been moved towards private farms and experiments are conducted in a participatory way together with the entrepreneurs. Farmers and researchers are organized in socio-technical knowledge networks for knowledge dissemination and mutual support. In this way, research aims are better tuned to farmers' individual and collective demands and generate solutions for local problems. In this respect one can also refer to them as problem-oriented knowledge networks. Knowledge will be transferred from researcher to farmer and vice versa, resulting in an intense knowledge circulation and construction. Upscaling and developing generic solutions are the new scientific challenges.

The effectiveness of the participation in these knowledge networks differs between farmers. Real innovations in farming systems only occur when farmers are front liners. Examples of remunerative organic farming systems inspire conventional colleagues, thus making farming as a whole more sustainable. It is the result of a good balance between the future oriented innovative power of the pioneers and the effective interaction with and spin-off to study groups of the more conventional farmers and other parties involved in the production-consumption chain.

At present, the following knowledge networks are active:

- *Bioveem: dairy husbandry, 17 farmers*
- *Biom: 40 farmers*
 - arable crops and open field vegetables,
 - tree nursery
 - bulbs
- *Ekoplum: poultry, 18 farmers*
- *Biofruitteelt: apple and pear production, 3 farmers*
- *Biokas: protected (covered) crop production, 6 farmers*

Private Farms

Beside the above mentioned farms participating in knowledge networks, much research is performed at private commercial farms. This especially applies to the research conducted by the

¹ do not confuse with Bioconnect, the Knowledge Network Organic Sector

Louis Bolk Institute, since it has no research facilities (e.g. experimental farms) of its own. It is also the LBI view that research should be conducted on-farm in order to increase the usefulness of the results.

6 Initiation of research and stakeholder engagement and management of calls

6.1 Wageningen UR as preferred supplier of research

In the formal relationship between the Ministry of LNV and Wageningen University and Research Centre, three categories of research are described and fall within the domain of public responsibility and will receive state financing:

- a) Knowledge Base (*Kennisbasis*)
Research in this domain is considered essential to preserve research expertise and research facilities in important scientific disciplines
- b) Statutory Research Activities (*Wettelijke Onderzoekstaken*)
Especially in the areas of food safety, veterinary science, phytosanitary knowledge and others, the state has legal obligations to conduct research and maintain a high level of expertise
- c) Policy Supporting Research (*Beleidsondersteunend Onderzoek*)
The remainder of the research budget can then be dedicated to research, which supports the Government's policy plans. This implies that the political course chosen has its consequences for priority setting. Policy supporting research provides input into the policy development process (scenario studies, feasibility studies, etc.), but can also consist of research considered important in bringing about previously defined policy goals. Organic agriculture for a large part falls in this category

Initiation of policy supporting research activities to be conducted by the Ministry's preferred supplier Wageningen-UR is an annual formalised process in which the Ministry of LNV takes the lead. This process is laid down in a ministerial decree². Before May 1 of each year, the Ministry sends a *Kaderbrief Onderzoek* (Letter of general orientations, or 'framework letter') to Wageningen-UR. This *Kaderbrief* broadly states:

- 1) the policy themes that require (new) programme activities in the following calendar year
- 2) the tariff and normalised cost structure for the following year

For organic agriculture, as well as for other policy themes, input into the *Kaderbrief*, is the result of a consultative process, usually through dedicated one-day conferences, in which stakeholders and Ministry officials discuss how research activities, as well as farm advisory work and education activities, can and should contribute to the intended growth of the organic sector.

The political identity of the Dutch coalition Government, and the partisan and personal views of the Minister of Agriculture play a role as well.

The *Kaderbrief* provides an indication of the subsidies available in the next year, as well as applicable financial or other preconditions. The *Kaderbrief* provides for each cluster of agricultural research, ten in total for 2006, the available budget. For organic agriculture this is a little more than 6 million EUR.

On the basis of the broad guidelines of the *Kaderbrief* Terms of Reference (*Programma van Eisen*) are written for each theme. This takes place in close collaboration between Wageningen UR and the Ministry as main 'client' of the research products. The Ministry, in particular the Cluster Organic Agriculture, will take the initiative in the area of organic agriculture.

² Regeling (Decree) subsidie Stichting Dienst Landbouwkundig Onderzoek, Staatscourant 1999, nr. 65 d.d. 6 april 1999, in force since 1 January 1999.

The next logical step is that in early autumn the Terms of Reference are the input to a more binding letter of orientations, which is sent to Wageningen-UR, accompanied by the respective budgets, inviting the institution to present concrete proposals for new programmes and projects.

The Cluster Board Organic Agriculture, in coordination with Wageningen UR, will allocate the available budget to the new themes that are relevant, as well as to themes of ongoing research, where there is a need to adjust certain aspects.

6.2 Stakeholder engagement

Coordinator of the process of formulating research questions and organising stakeholder engagement is the sectoral organization Biologica in which all primary and most secondary stakeholders are represented. Biologica coordinates a whole structure of working groups, Bioconnect (see chapter 2), at different levels, to ultimately provide the Ministry with a prioritised list of research themes.

The Bioconnect *Netwerkloketten* are the main tool to extract research ideas and criterias for prioritisation from the stakeholders. Primary and secondary stakeholders discuss ideas, problems and possible solutions with researchers, which can lead to new research proposals. Since Bioconnect only started functioning in 2005, there is no experience yet to draw conclusions on the efficacy of this initiation, prioritisation and control. However, a structure for a successful stakeholder engagement is present.

Before 2005, Biologica, receiving its input directly from experts and stakeholders in the organic sector, regularly presented a list with subjects that needed (extra) research to the ministry of LNV. Many of the recommended subjects were adopted in the policy documents.

6.3 The Ministry as facilitator and as client of research

The final say on which research proposals go ahead is also with the Ministry of Agriculture. As was referred to in the introductory part of Chapter 3, the Ministry has two roles. The Ministry sees itself as facilitator of the intended growth of the organic agriculture sector, this being the policy objective. Through the process described, the organic sector stakeholders propose research themes. The stakeholders generally know best, and their proposals will be taken very seriously and are mostly adopted by the Ministry.

The second role of the Ministry of LNV is to develop, monitor and evaluate its own policies. The Ministry has legal obligations. It is, for instance, the ‘competent authority’ in the framework of Regulation EC 2092/91. The Ministry represents Dutch interests at the European Commission and the European Council. It supervises the Dutch certification body Skal. Regularly, these different responsibilities require knowledge input from stakeholders of the organic agriculture sector. An advisory structure is in place for this. Sometimes one concludes that certain research activities are needed to answer specific problems.

For these kinds of activities, the Ministry has autonomy in commissioning Wageningen UR research institutions to produce the required information. In all research programmes decided in the process described above, a maximum of ten percent of the budget is set aside and earmarked for ad-hoc research questions including policy relevant questions.

6.4 Open calls

Sometimes open calls are made. Wageningen UR institutes as well as other institutions, which do not have a link with the Ministry, can respond with their proposals. Here, until now, no fixed dates apply.

Based on (policy/political) needs, research needs are defined for a topic. After an inventory of the state of the art of knowledge and research, the Ministry decides whether new research is necessary. If affirmative, at least three institutions are requested to send in a proposal for a project based on well-defined terms of reference elaborated by the Ministry.

The project proposals are comparatively evaluated and the best one (based on price and quality) is chosen and funded.

7 Selection criteria and evaluation procedures

Identification of organic agricultural research priorities takes place in a process as described elsewhere in this country report. The process of selection of research areas and specific projects, which is bottom-up, still needs to comply with a sort of tender documents, based on specific and relevant terms of reference, guarantees that no additional selection criteria need to apply.

An evaluation procedure before the final approval of the project is a further safeguard.

As regards evaluation, as is shown in figure 1, Bioconnect will also play an important role. Since Bioconnect only commenced her activities in mid-2005, for the time being evaluation procedures will be the same as for other (non-organic) research programmes.

The standard 'ex-ante evaluation' in which third party subject matter specialists and representatives of the Ministry of LNV follow a defined procedure to ascertain that the programme's objectives and intentions are realistic.

Secondly, each programme is supervised by a supervisory committee, which accompanies the programme's work plan, formally assesses the annual planning and progress. The supervisory committee can include stakeholders, farmers, farm advisors, governmental experts and researchers not involved in this particular programme.

Finally, after conclusion of the programme, it is evaluated in a standard 'ex-post evaluation' to assess whether and to what extent the programme's goals were achieved. The evaluation committee is made up of specialists and stakeholders, who sat in the supervisory committee, ideally supplemented by others who can look at the programme with a fresh view.

For the evaluations a three page questionnaire exists. As a rule, researchers involved in the programme are excluded from the evaluation.

The evaluation that takes place before a research programme is approved, consists of the following analysis, undertaken by before mentioned committee of subject matter specialists and Ministry officials.

After finalisation of the programme, the 'ex post' evaluation basically focuses on the same issues and uses the same criteria.

The following issues are debated and clarified in both evaluation rounds.

1. A judgement on the quality of the report of the full research programme:
Focus points are completeness of the report, are all aspects addressed and are descriptions sufficiently clear and comprehensible?
A grade point is assigned to this aspect, on a scale from 1 to 5.
2. Evidence in the programme of the relevance to society as a whole:
Focus points are the link between research and policy development and current political issues, relevant policy themes of the Ministry of Agriculture, Nature and Food Quality, impact in the wider society, objectives of ministerial policy in relation to the (agro) business community, and flexibility in response to new developments (if relevant).
To what extent does programme outcome contribute to ministerial policy objectives and are knowledge issues pertinent to these objectives being addressed?
Can you name some examples to demonstrate relevance to society as a whole?
Please assign a grade point to this aspect, on a scale from 1 to 5.
3. How did generated knowledge flow to target groups and problem owners and how was it taken up?
Here the issue is effect and use of knowledge in policy development, policy implementation, policy support, etc. The relevance of this is not limited to policy makers at this Ministry. Use of research outcome by other public authorities, civic societies, product-marketing boards and other research programmes are relevant too.

4. Criteria are:

- There is a clear communication plan to stimulate flow and implementation of knowledge
- Use of generated knowledge can be demonstrated in palpable products like for example policy papers, practical field situations, etc.
- Programme and project leaders coordinated progress with the relevant problem owners. Debriefing or exit interviews at conclusion of projects are standard
- Research results are laid down in accessible policy relevant summaries. If need be, this was contracted out
- Project en programme information was easily accessible, for example through the internet
- Members of the supervisory committee, in particular the chairperson and the secretary, were active in dissemination of research results and had a role as contact point for their colleagues

Please assign a grade point to this aspect, on a scale from 1 to 5.

5. What is your judgment on the quality of the output of the research programme:

At stake here is the quality of delivered results. Were they the correct answer to the question, are they timely, is their description clear and concise, are they useful?

More in particular, the considerations here are:

- Were research and communication targets met?
- Are the products well described?
- Are alterations to the programme well explained?
- Were projects well in tune with each other? Were intermediate results integrated in a dynamic and continuous update of the projects?
- Is there a succinct description of each project with its timeframe, projected output, milestones and results?
- What is your prognosis on the usefulness of the programme's results?

Please assign a grade point to this aspect, on a scale from 1 to 5.

6. What is your judgement on the organisation and management of the programme?

This item refers to organisation and work methodology of the research programme, planned internal communication and coordination, as well as cooperation.

Criteria include, but are not limited to, quality management, transparency of communications both internal and external towards clients and supervisory committee, flexibility to adapt to new developments, balance between short and long term results, clear and transparent procedure for non-earmarked financial resources, aspects of co-financing of other programmes and projects, concrete cooperation with other research programmes, an coaching by supervisory committee's chairperson and secretary of the other members of the committee.

Please assign a grade point to this aspect, on a scale from 1 to 5.

7. What is your judgment on the input into the research programme?

This item deals with the effective and efficient use of available resources. The criteria include effective use of money, good budgetary balance between short-term and long-term projects, transparency in projects expenditure and contributions from third parties, timely consultation on differences between planned and realised application of resources and clear reporting on these.

Please assign a grade point to this aspect, on a scale from 1 to 5.

8 Utilisation of research

Knowledge dissemination is integrated in most Dutch publicly funded research projects. For this purpose all research programmes and many of the underlying projects contain a special paragraph on communication. It describes, which publications other than research reports are produced and which dissemination activities are planned and for which target groups.

Knowledge adoption by the final users of the newly generated knowledge, however, is not the responsibility of research and therefore organised separately. It is intended that Bioconnect will eventually also initiate and coordinate these extension activities. This only applies for activities executed in projects with a common interest for the sector and/or government. Individual advice is a private and therefore commercial activity beyond the scope of Bioconnect.

Recently new activities have started on dissemination of organic research information to the education sector. It is expected that Bioconnect will also play an advisory role in this new education network.

9 Scientific education and research schools

In the Netherlands, various options exist for post-secondary academic training in organic agriculture. All are concentrated at Wageningen University and Research Centre.

Wageningen University offers a complete curriculum “Organic Agriculture”, which is broadly oriented on the supply chain (production - processing - trade – consumption) as well as on disciplines (technique, economy, society and environment). The curriculum is problem-oriented and assumes an integrated approach of the total (farm) system.

There is a BSc programme, conducted in Dutch language, *Biologische Productiewetenschappen*, (Organic Production Sciences).

This can be followed by a two year (or less) international MSc programme, conducted in English, with a choice of two major subjects:

- *Farm and Rural Environment*
- *Consumer and Market*

In addition, Wageningen UR offers qualified applicants four-year PhD programmes, including in organic agriculture.

Annex 1 Glossary and terms

Ministerie van Landbouw, Natuur en Voedselkwaliteit = Ministerie van LNV = LNV	Ministry of Agriculture, Nature and Food Quality
Biologica	Organisation; main policy platform of the Dutch organic sector, representing primary producers, traders and processors, and natural food stores. Member of IFOAM
Knowledge Network Organic Sector = Bioconnect	Kennisnetwerk Biologische Landbouw; tiered private structure integrating all agricultural sectors and stakeholders, responsible for defining the sector's research needs.
Cluster Board on Organic Agriculture	Organisational entity within the Ministry of LNV, dealing with all issues of 'knowledge' in organic agriculture.
Netwerkkolletten (Network Counters).	Primary tier within Bioconnect, where inputs from within an agricultural sector come together, and, generally, sectoral matters are discussed.
Adviescommissie Kennis (Advisory Committee Knowledge)	Secondary tier within Bioconnect, fed by the respective Network Counters, making final recommendations to the Ministry of LNV on research projects and their priorities.

