



ICROFS

International Centre for Research in
Organic Food Systems

Organisation of Organic Agriculture Research in Denmark – background, use of knowledge syntheses, analysis of results

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ICROFS

A centre without walls

- *Established 1995, then as DARCOF*
- *Reorganised 2008 into ICROFS*
- *Core funding from the Ministry of Food, Agriculture and Fisheries*



What is “a centre without walls”?

- *Established researchers from universities and research institutes participate in research projects*



International Centre for Research in Organic Food Systems (ICROFS)



- Aiming for the organic principles to become the global reference for agricultural sustainability
- *Coordinator* of research programmes & projects
- *Promoting* and *communicating* organic research results and knowledge
- International board (representing Asia, Africa, America, Europe, IFOAM)
- National Programme Committee with representatives from universities and the sector
- *Collaboration* with international funding bodies and research organisations interested in supporting development of organic food systems



Knowledge synthesis: increasing insight, credibility and focus through expert knowledge and pinpointing knowledge gaps

- a useful tool
 - in the preparation of new research projects/programmes,
 - in clarifying particular problems,
 - for creating a more comprehensive, overall perspective on a specific subject, which draws on both the available scientific knowledge and practical experience.
- analyses, discusses and synthesises the existing knowledge on an unclarified, and often disputed, subject in relation to the main points of view

Twelve knowledge syntheses ICROFS

from ICROFS (in Danish)

- Nitrogen leaching and balances in conventional and organic production systems
- Health and welfare in organic milk production
- Opportunities and barriers in organic pig production
- Nature quality in organic agriculture
- Groundwater protection and organic conversion
- Organic food and human health
- Breeding of grain and pulses and production of seed in organic agriculture
- Consequences of genetically modified crops for organic agriculture
- Reduction of fossil energy use and production of renewable energy in organic agriculture
- Opportunities for organic fish production in Denmark
- Challenges and prospects in the global development of organic agriculture
- Opportunities and barriers for continued development, growth and integrity in the Danish organic sector (2008)

Development, growth, and integrity in the Danish organic sector



- New knowledge synthesis starting up just now
- Effect of Organic Agriculture on the common goods

A knowledge synthesis on the opportunities and barriers for a continued development and market-based growth in production, processing, and sale of organic products

October 2008

-
- 50 page summary in English
 - <http://is.gd/icrofs>

Danish research Programs



Short for:
Organic Research,
Development and
Demonstration
programme

Organic RDD 2

Theme: Growth, Credibility and Resilient Systems

- 2014-2018
- 90 mio. DKK (app. € 12 mio.)
- 10 projects

Organic RDD

2011-2014

92 mio. DKK (app. € 12 mio.)

11 projects

DARCOF I - III

1996-2010

> 500 mio. DKK (app. € 67 mio.)



Transnational European Research programs

Short for:
Coordination
of European
Transnational Research
in Organic Food and
Farming Systems



CORE Organic

- The European Research Network
- New projects chosen
 - This October eleven new projects were chosen for funding under the new programme CORE Organic Plus
 - CORE Organic Plus benefits from additional top-up funding by the European Commission

<http://www.coreorganic.org/>

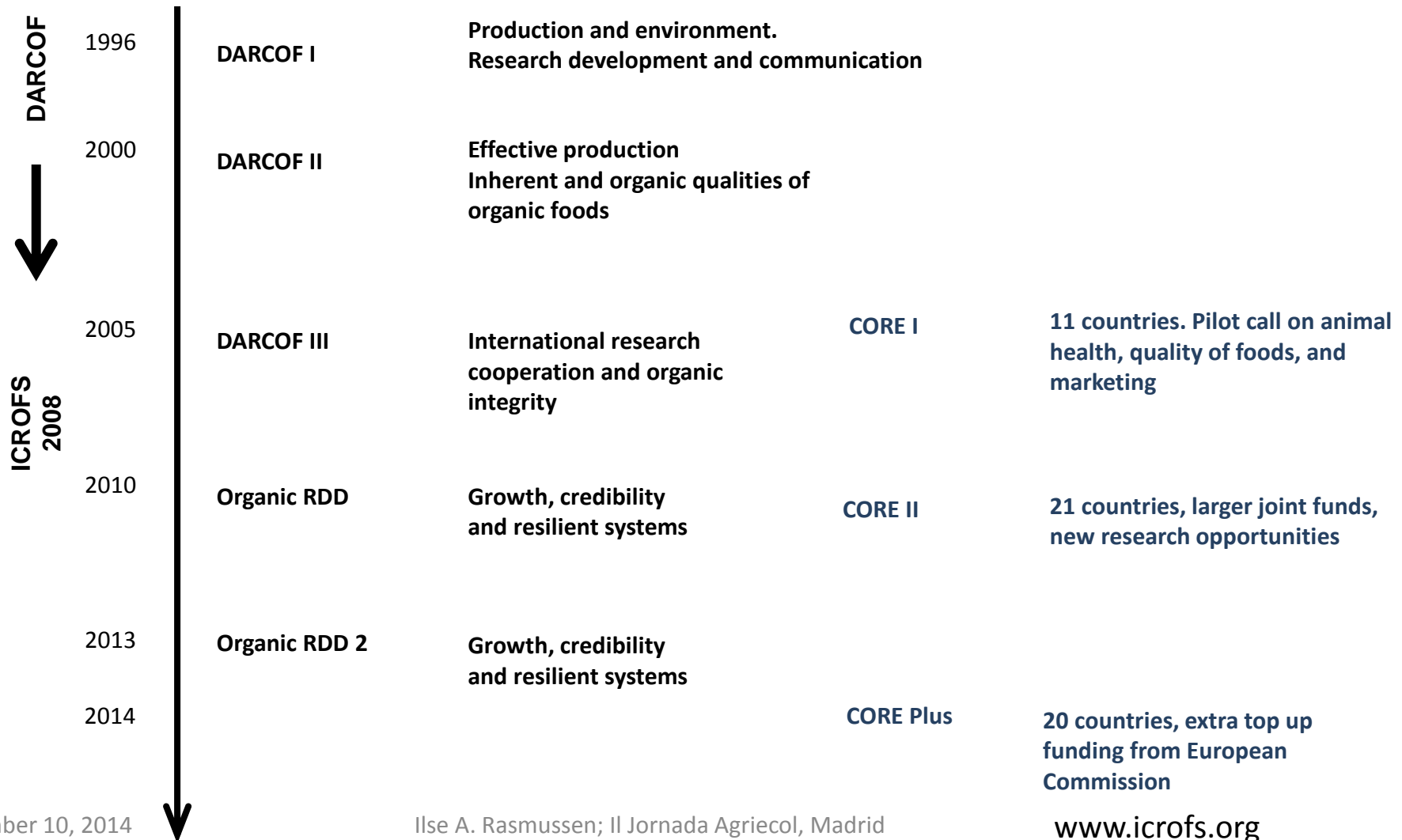
CORE Organic – 2005-2007 (2010) € 8 mio.
CORE Organic II – 2010-2013 (2016) € 14 mio.
CORE Organic Plus – 2014-2019 € 11 mio.



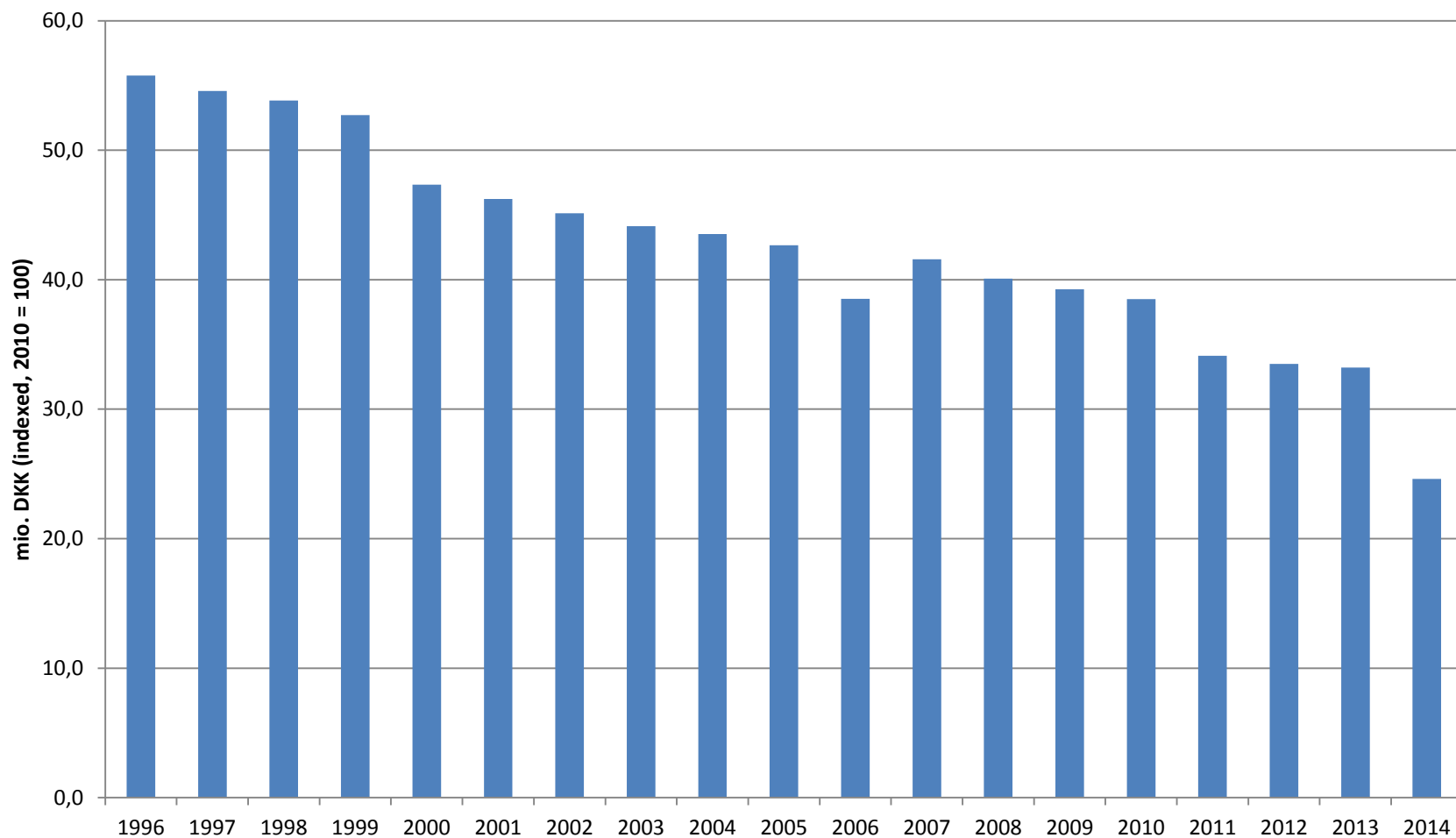
History of research



programs coordinated by ICROFS



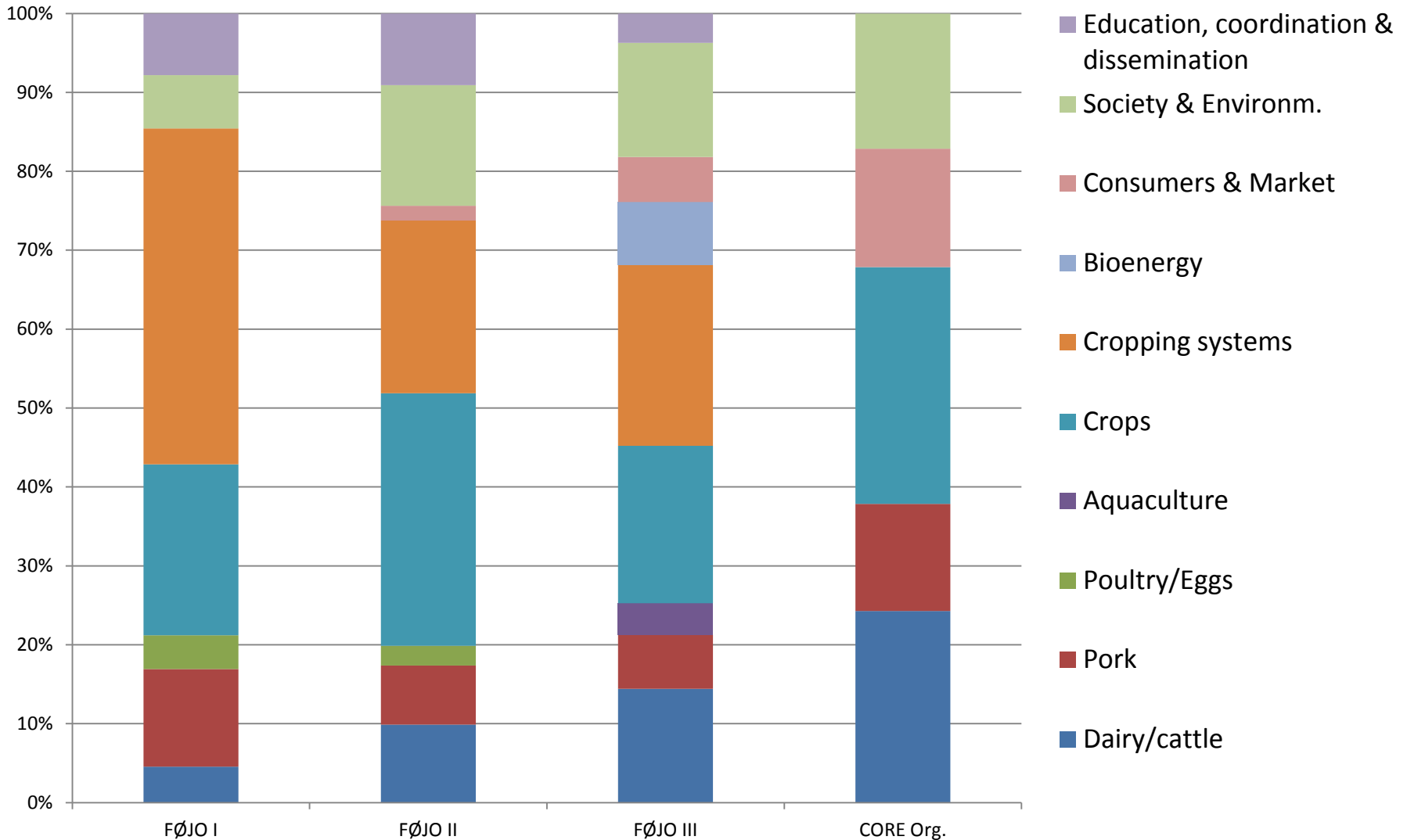
Decreasing funding



Research projects 1996 - 2010

Focus area	Number of projects within each program			
	DARCOF I	DARCOF II	DARCOF III + CORE Organic	Total
Dairy/cattle	1	7	4	12
Pork	5	4	2	11
Poultry/eggs	1	1	0	2
Aquaculture			1	1
Crops	7	13	5	25
Cropping systems	14	10	3	27
Bioenergy			1	1
Consumers & market		1	2	3
Society & environment	2	7	4	13

Proportion of funding



Effects of research in Organic Agriculture and Food Systems in Denmark 1996 - 2010

Main conclusions:

Alignment between:

http://is.gd/icrofs_analysis

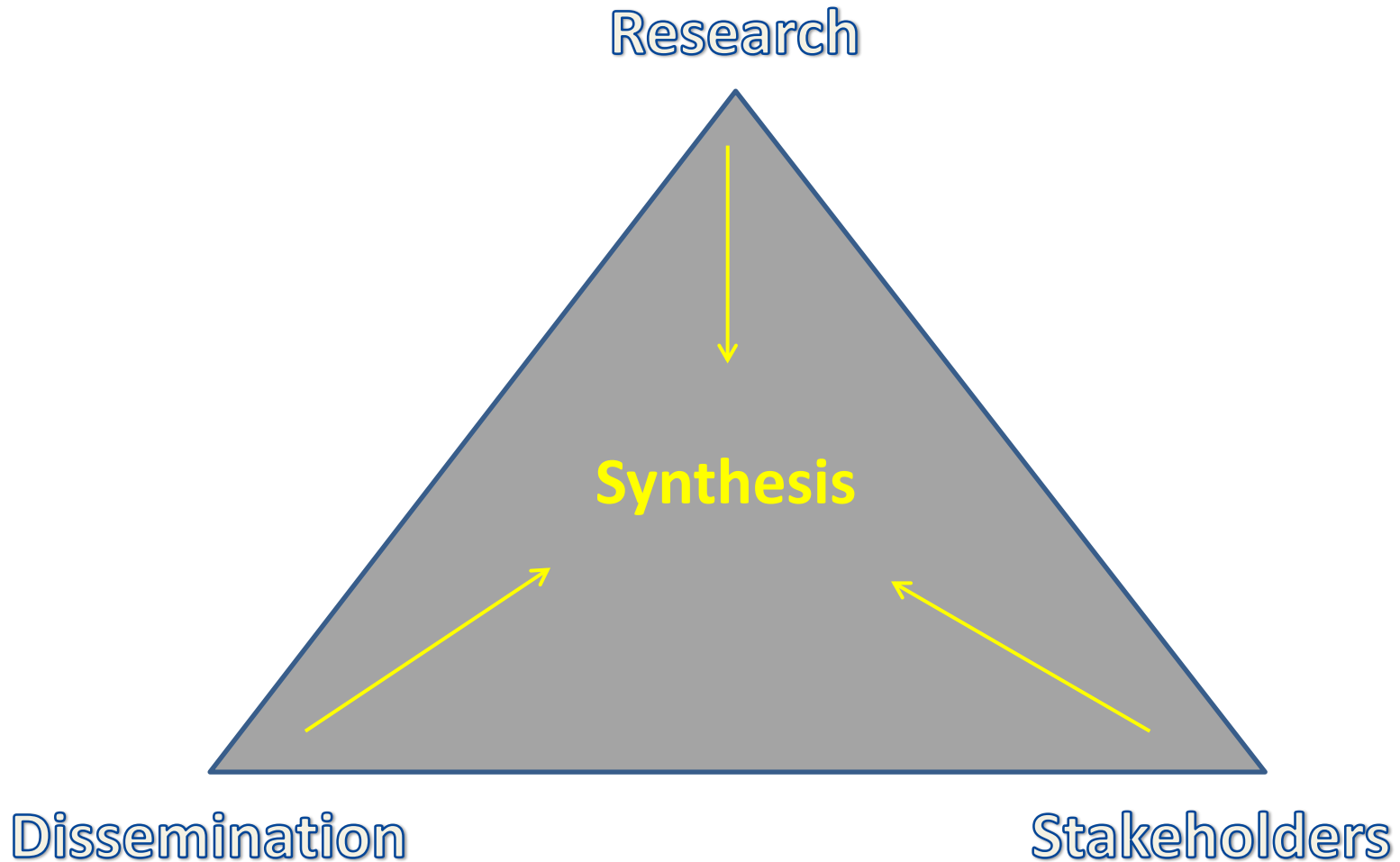
- Challenges in the sector
- Focus areas of the research
- Dissemination of results



Research has aided the
development of the sector directly
and indirectly



Method - triangulation



"All advisers are certain about crop rotation and they have that knowledge from research"

"The Danish research projects on organic agriculture have been outstanding with respect to dissemination"

"We have learned a lot about perennial weeds and farmers that use the methods we recommend succeed with their weed control"



Without knowledge about:

Fodder quality:

Utter health:

Use of antibiotics:

The earning/dairy cow would have been:


would have been:

15% lower

12% lower

14% higher

"Among organic farmers a stable and correctly composed protein supply is an important part of self-sufficiency. The research has had a great significance for our present status"

A photograph of a pig farm. In the foreground, a large group of piglets is gathered on a bed of straw. In the middle ground, a man in a green shirt and shorts stands talking to a woman in a white hoodie. In the background, several other people are visible, some holding cameras, suggesting a tour or a research visit. The setting is a large, open-sided structure with a metal roof and concrete walls.

"It has been a challenge to be able to argue that there was a future for organic pork production, but the availability of research results has been a help to show it"

"The researchers have been very open to ask for input from stakeholders about their ideas and how to test them"

**"Research and the resulting development of the primary production has contributed to the positive competitive situation we are in now
- no doubt that it has contributed to growth and market shares"**




'Herbal milk': product innovation based on R+D results in primary production

- *Research focus*: the challenges were 100% organic feed with healthy animals and a good nutrition
- *Experiments*: integrate herbs in the grass-clover mixture
- *Results*:
 - Better vitamin supply
 - High proportion of healthy fatty acids in milk
- *Product innovation*: cheese, butter, milk
- From "low fat" to "good fat"



Government and NGO's

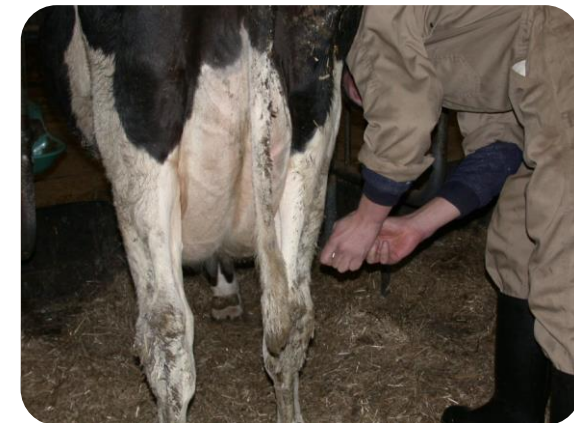


- Indirect influence on regulations
 - Continual input of new knowledge
- 
- A photograph of a rural landscape. In the foreground, a green field with a few trees and a single sheep grazing. In the middle ground, a body of water (lake or reservoir) stretches across the horizon. The sky is blue with scattered white clouds. The image is framed with rounded corners and has a reflection effect below it.
- High credibility within animal welfare and environment
 - New possibilities for a green change and increased growth in agriculture

Spin-off to green change of conventional agriculture – phasing out use of antibiotics in dairy herds



- *Research focus:* cut down on use of antibiotics through better health management
- *Activities:*
 - Stable schools
 - Research
 - Documentation
- *Results:*
 - Avoid treatments with low effect and 'get rid of' disease
 - Reduce use of antibiotics to 10% of the level in conventional herds
 - Methods could be used in conventional farming



Spin-off to green change of conventional agriculture – healthy seed without seed treatments



- *Research focus:* 30% of organic wheat production unsuitable for food and feed due to common bunt (*Tilletia caries*)
- *Experiments:*
 - cleaning with brushes
 - damage thresholds
- *Results:*
 - Problem solved – healthy organic seed
 - Potential for decreased use of seed treatment in conventional agriculture



Research output score

- Based on Pedersen et al. 2011
 - Same method used for evaluation of Danish agricultural research projects
- Gives score to each type of output in three categories:
 - Scientific effect
 - Embedment of knowledge
 - Impact on industry and society

Scientific effect

Indicator	Score assigned (points per output)
Scientific paper JIF > 4	120
Scientific paper 4 > JIF > 2	100
Scientific paper JIF < 2	80
Scientific paper without JIF	30
Scientific paper in national language	20
Books and book chapters	40
Proceedings and working papers	20
Research reports & chapters	20
Conference presentation with peer review	20
Conference presentation without peer review	15
Poster presentation	10

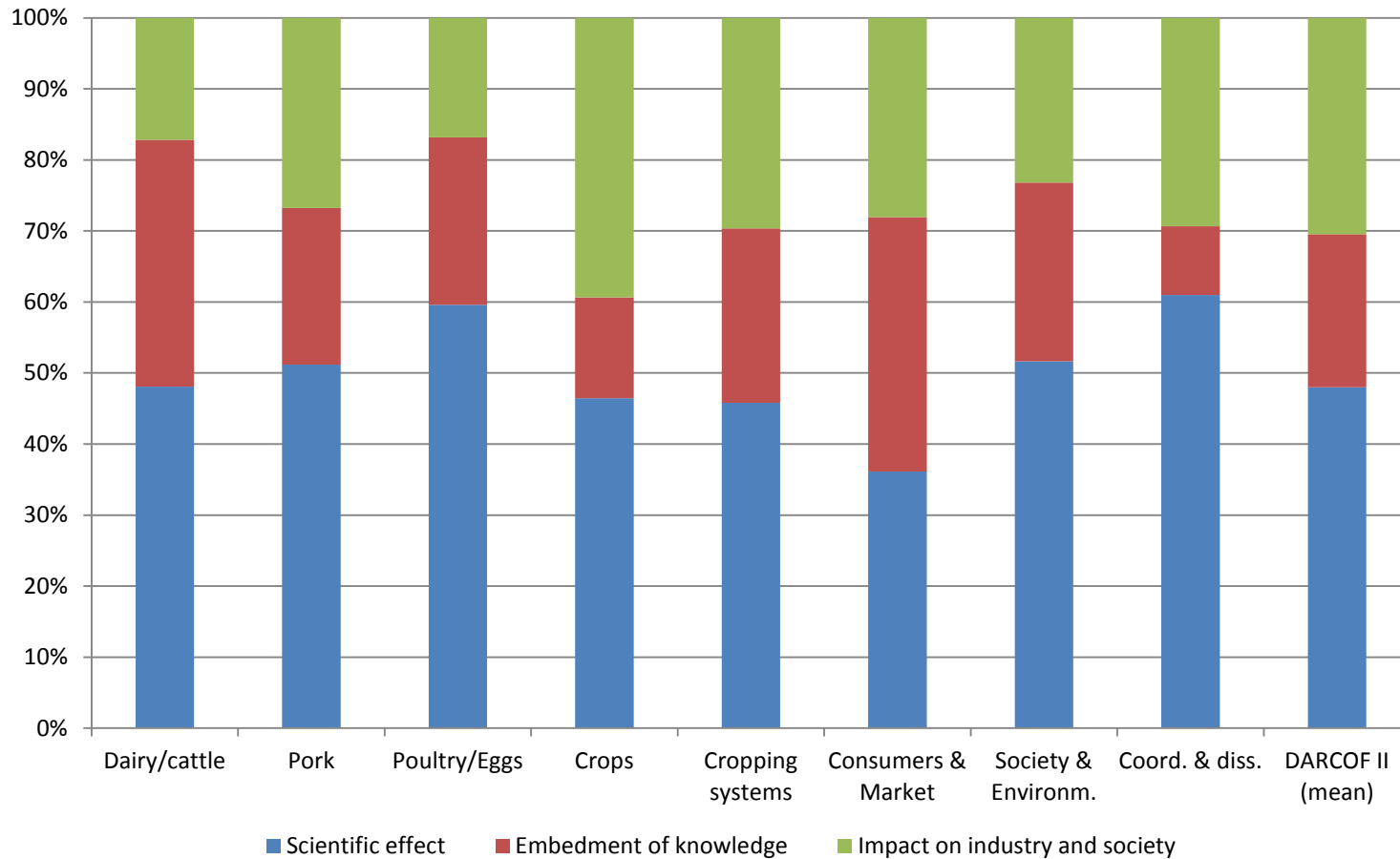
Embedment of knowledge

Indicator	Score assigned (points per output)
Researchers (PhD and PostDoc)	300
Master students	50
Bachelor students	20
Education, per course	20
Guest lecture	10
Patents, extermination of novelty	20
Patents, application	100
Patents, approval	40
Development of strategic methods	100
Other types of commercialization	100
Software programs	100

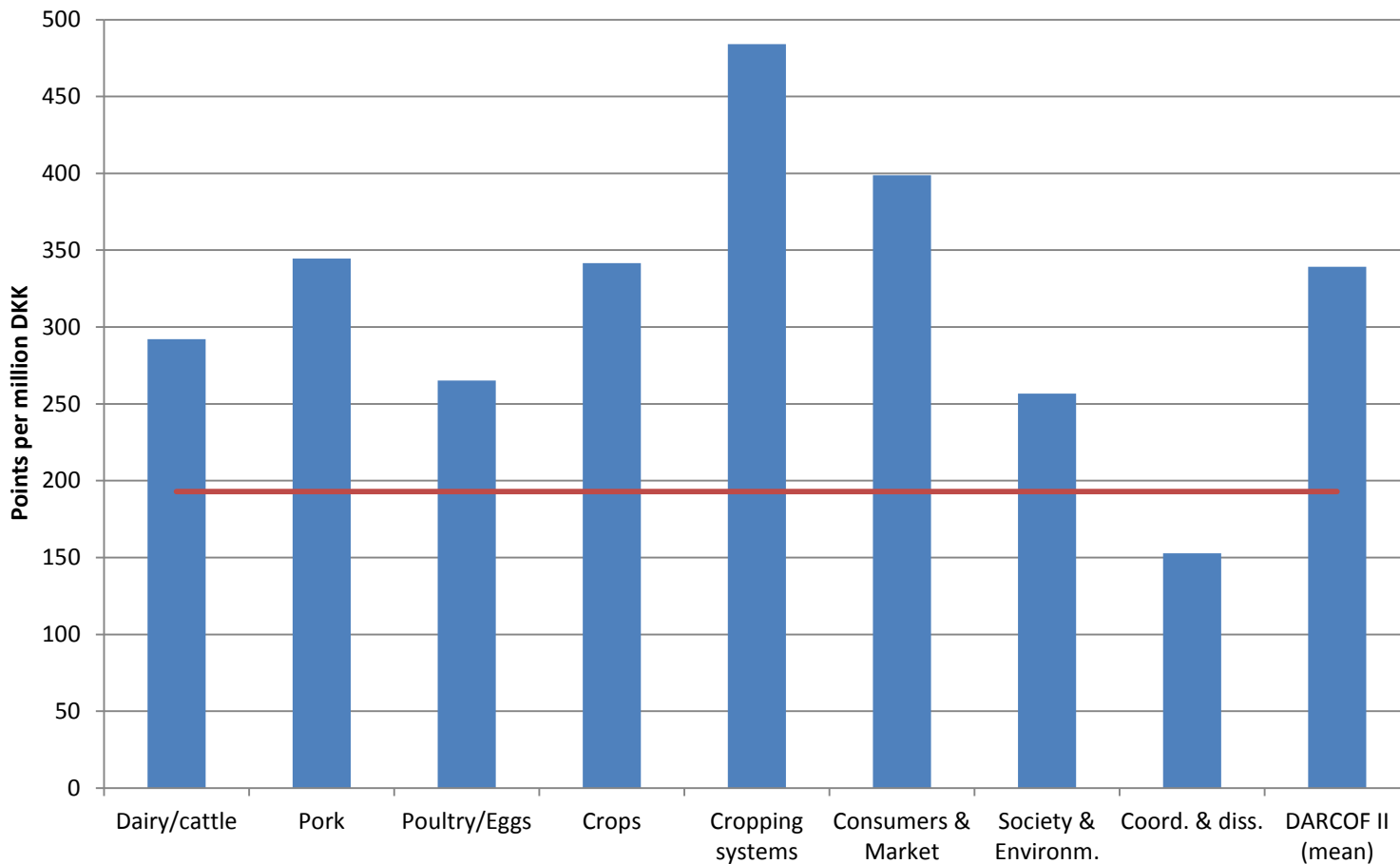
Impact on industry and society

Indicator	Score assigned (points per output)
Publication in subject-specific journal	50
Publication in subject-specific newspaper	50
Larger account > 50 pages	80
Smaller account < 50 pages	20
Procedure for authorities	100
Lecture	20
Feature/newspaper/discussion article	20
Interviews to nationwide radio or tv	20
Subject publications in relation to project	20
Subject meeting/workshop	20
Newsletter	10
Website	10

DARCOF II – proportion of score

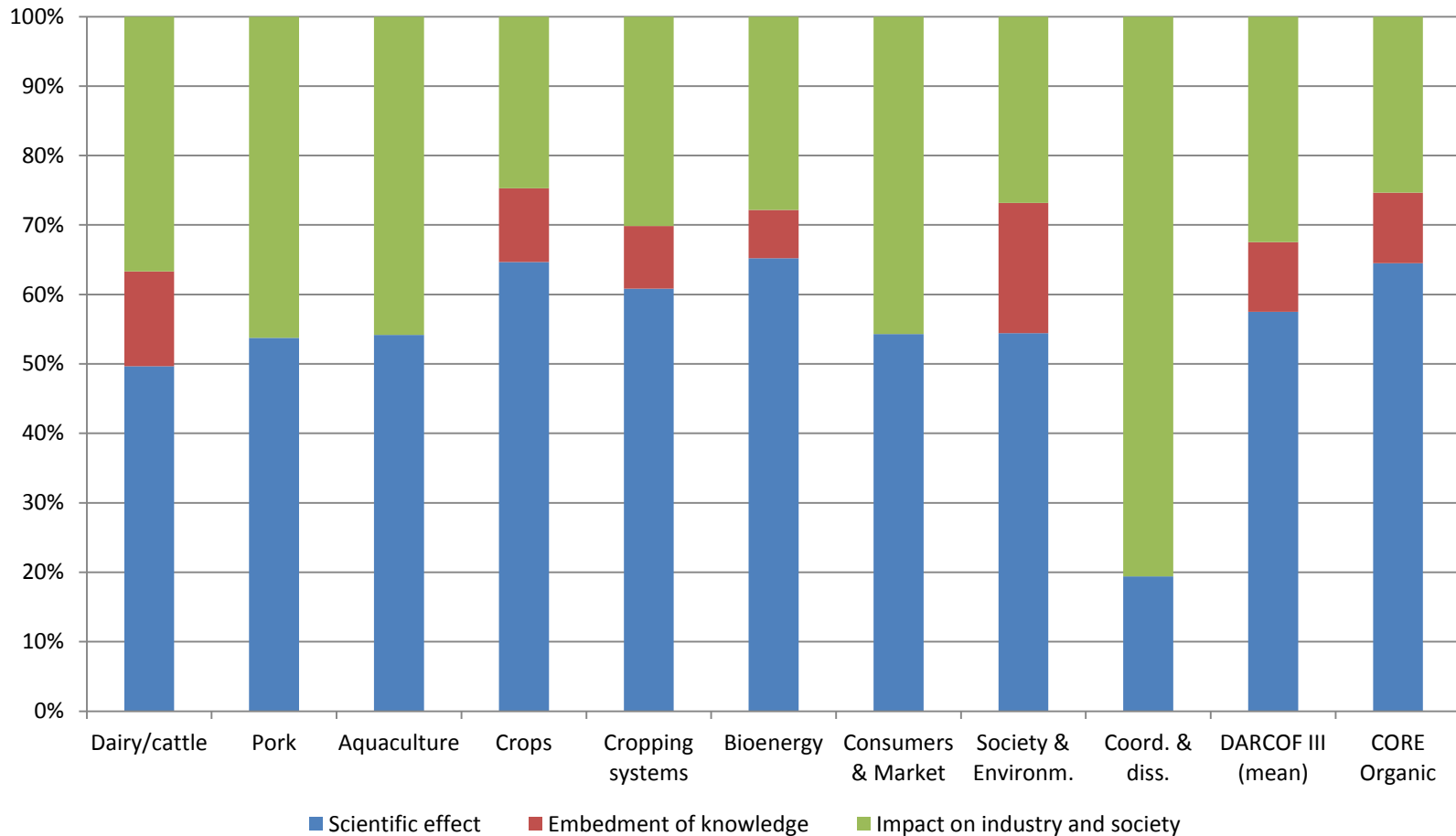


DARCOF II – total score

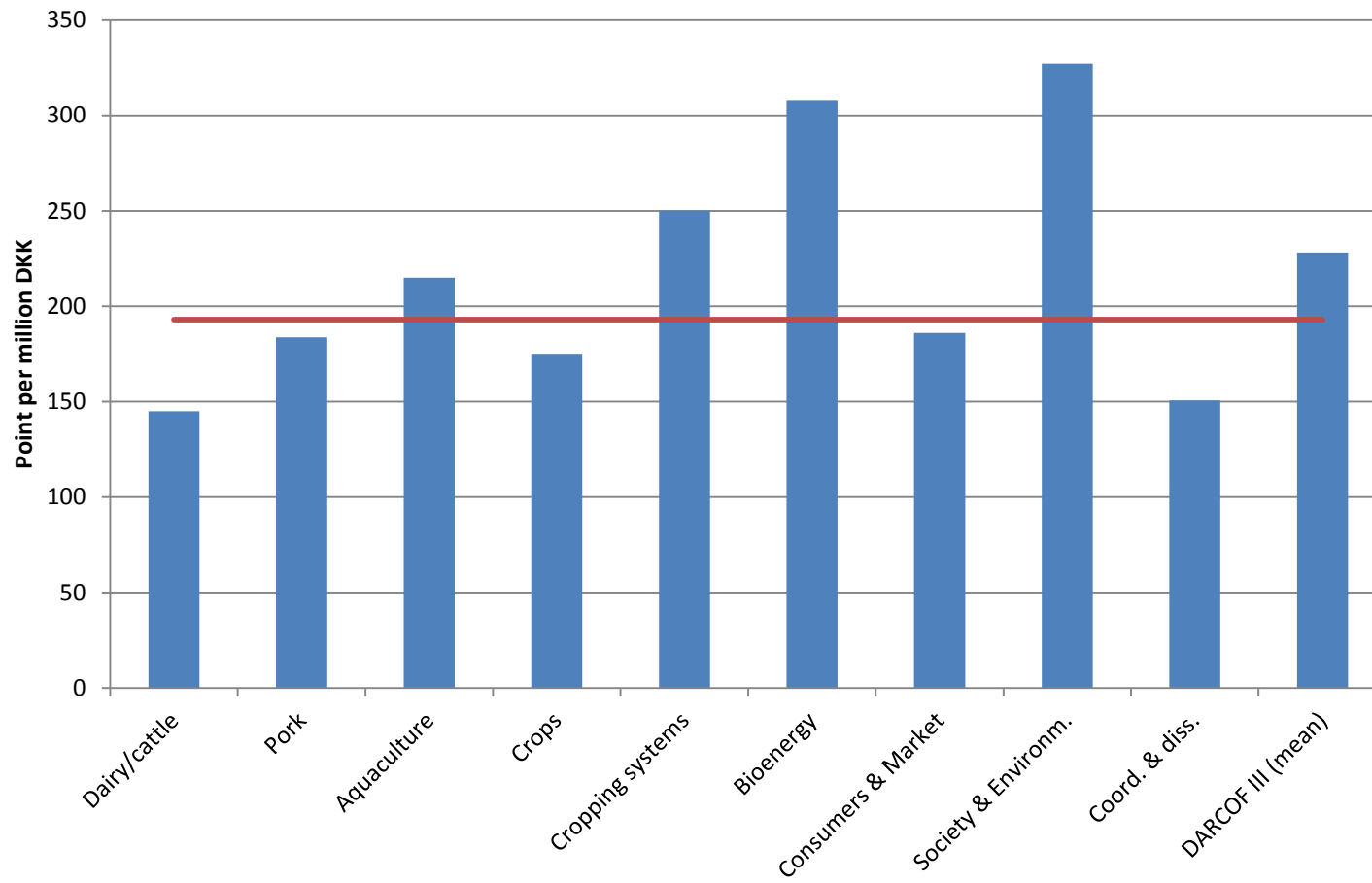


Red line: mean of projects in Pedersen et al., 2011

DARCOF III and CORE Organic proportion of score



DARCOF III – total score



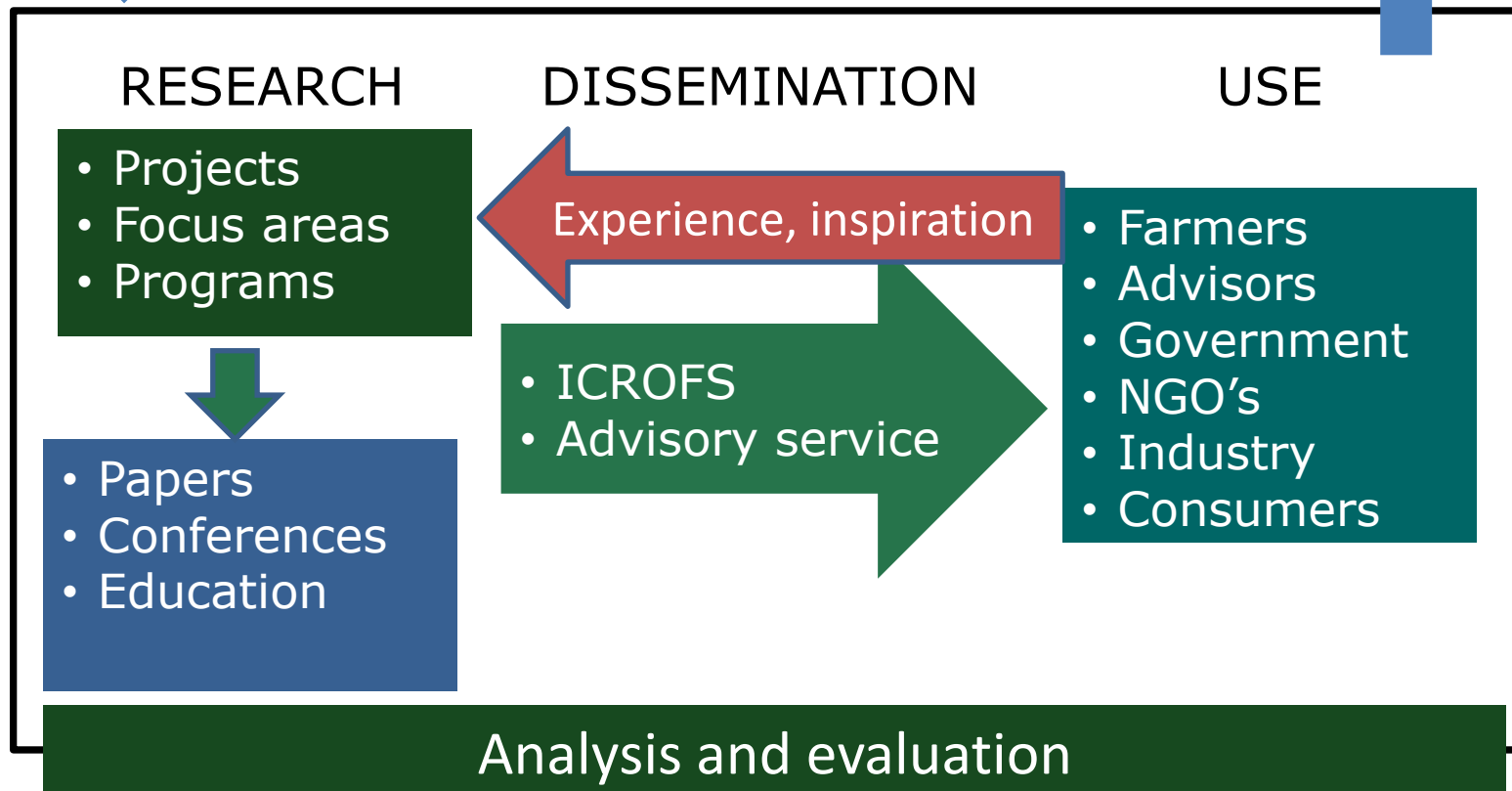
CORE Organic was "out of bounds" with 600 points pr. million Danish Crowns

Red line: mean of projects in Pedersen et al., 2011

Innovative organization of R+D:

- Close connection between researchers and stakeholders
- Action plans and knowledge syntheses
- Complex relationship between R+D, advisory service and farmers

- Result:
- Combination of research aimed at practical use and high international level



Main communication and info

www.icrofs.org

- News and events, projects websites, research results, fact sheets, publications, etc.

Organic Eprints (www.orgprints.org)

- open on-line archive for research in organic

Newsletters

in English & Danish – sign up at www.icrofs.org

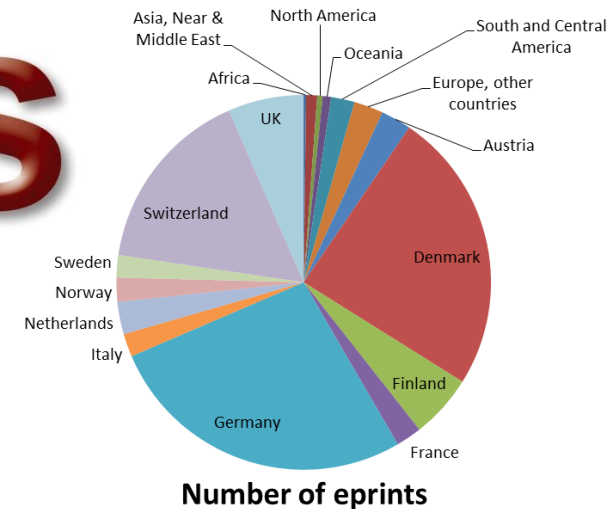


Organic eprints

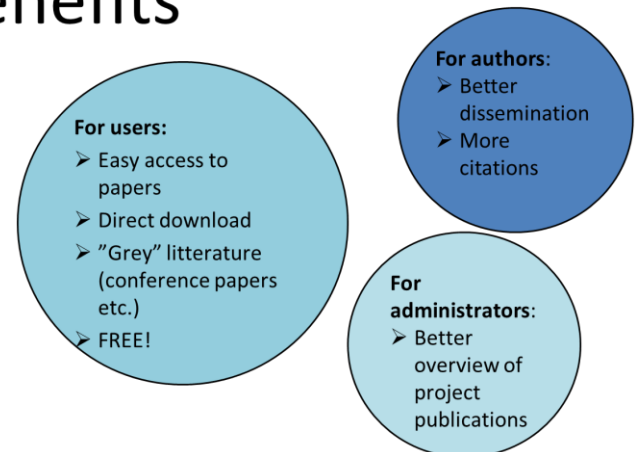


– an open archive for organic research

- Developed and launched by ICROFS in 2002
- 6th largest archive on agriculture in the world
- More than 15.000 publications
- Use is free of charge.
- 29.000 registered users of Organic Eprints
- More than 6.500 visits each day
- Use: teaching, research, practice and advice



Benefits



Welcome to Organic Eprints

Organic Eprints is an international open access archive for papers and projects related to research in organic food and farming with bibliographic information, abstracts and other metadata. It also offers information on organisations, projects and facilities in

Manual for Organic Eprints in English, Czech, Portuguese and Spanish can be found [HERE](#)

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- [Subject Area](#)
- [Research affiliation \(Country / Organization / Project\)](#)
- [Year](#)
- [Eprint Type](#)
- [Document Language](#)
- [Research funders](#)

Reference

- Pedersen, S.M.; Boesen, M.V.; Baker, D.; Larsen, A. & Pedersen, J.L. (2011): Evaluation of research projects – perspectives for applied research in food and agriculture. Food Economics – Acta Agriculturae Scandinavica C, Sept. 2011; 8: 127-141.