



Agricultural Research in Germany *and* German Agricultural Research Alliance (DAFA)

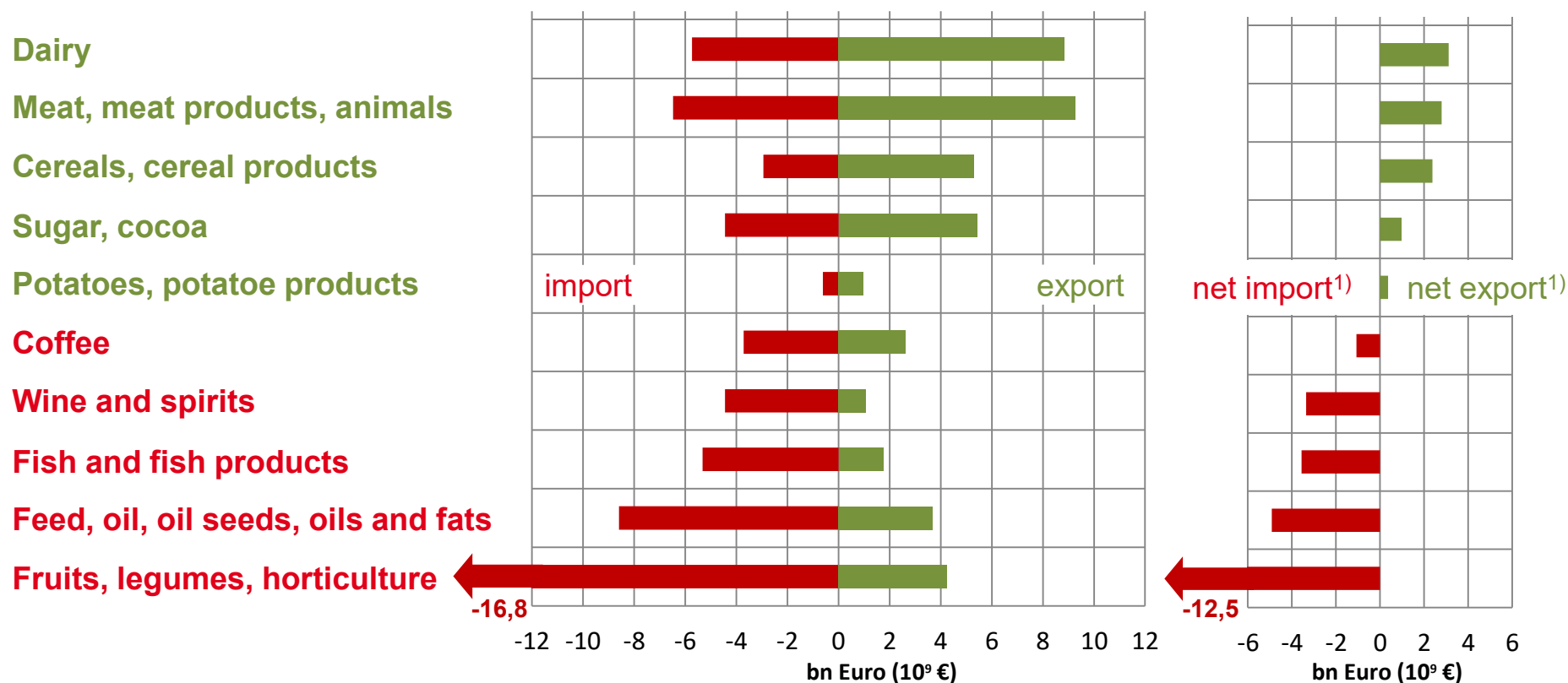
Prof. Dr. Folkhard Isermeyer (Thünen Institute, President)
Potsdam, 12.11.2017



❖ Agriculture in Germany



International trade, German food sector, 2011/2012



¹⁾ difference of gross export and gross import.

Source: BMEL, own calculations



Change of production quantities and fractions (1995–1997 and 2010–2012) in %

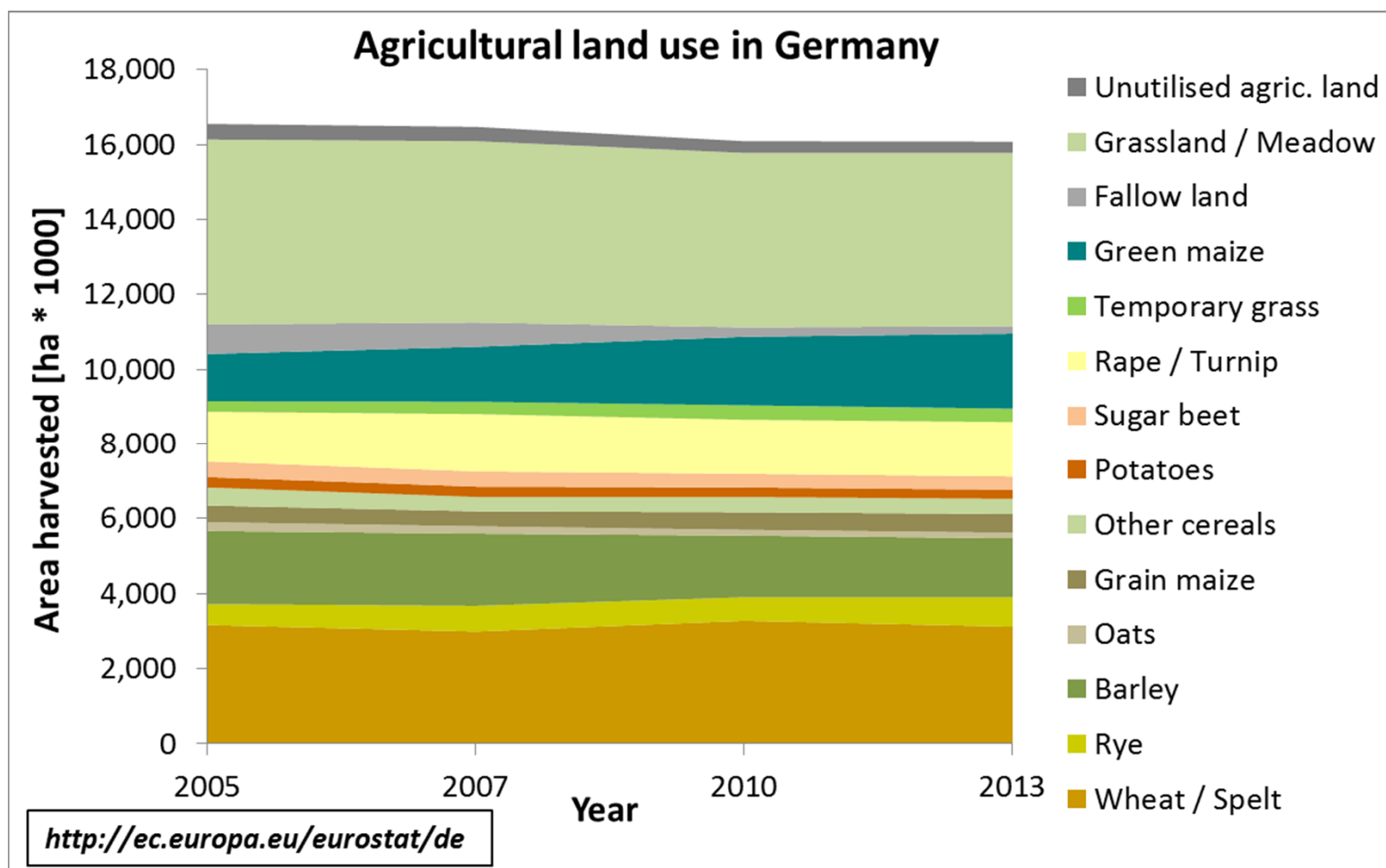
	DE %	FR %	UK %	IT %	ES %	PL %	RO %	NL %
Cereals	+3 15/15	+10 22/23	-11 8/7	-6 7/7	+11 6/7	+6 9/9	-10 7/6	+11 1/1
Oil seeds	+72 12/14	+34 23/20	+134 6/10	-17 12/7	+29 15/13	+144 4/6	+106 5/6	0 0/0
Potatoes	-11 14/19	+9 7/12	-19 8/10	-24 2/3	-37 4/6	-64 29/15	0 4/6	-10 9/12
Sugar beets	+4 18/23	-3 22/27	-25 7/6	-75 9/3	-54 6/3	-28 11/10	-73 2/1	-13 4/5
Fruits	-2 4/4	-24 18/15	+16 1/1	-2 27/28	+14 21/26	+49 4/6	-18 4/4	-7 1/1
Legumes	+12 5/6	-9 10/9	-17 5/4	-6 22/21	+15 17/19	-2 9/8	+16 5/6	+36 5/7
Dairy	+4 19/20	-5 17/16	-6 10/9	-11 8/7	+9 4/5	+4 8/8	0 3/3	+6 7/8
Eggs	-10 13/11	-14 15/13	+4 10/10	+2 11/11	+33 9/12	+50 6/9	+13 4/5	+13 9/10
Beef	-19 16/15	-11 19/19	+14 9/11	-13 13/13	+8 6/8	-4 4/5	-27 2/2	-34 6/5
Pork	+53 17/24	+2 10/10	-23 5/3	+19 7/7	+49 11/15	-4 9/8	-33 3/2	-14 7/6
Poultry (chicken)	+106 6/9	-20 17/10	+21 15/14	+11 10/9	+30 12/12	+285 4/12	+23 4/3	+29 8/8
Poultry (turkey)	+112 12/27	-42 38/22	-38 16/10	-2 18/18	+26 1/2	+241 2/6	kW kW	+63 2/3

↑ Production quantity of EU27 of 1995–1997 relative to 2010–2012 (averages per period)
↑ Change of production quantity of 2010–2012 compared to 1995–1997 (averages per period)

Source: FAOSTAT, own calculations.

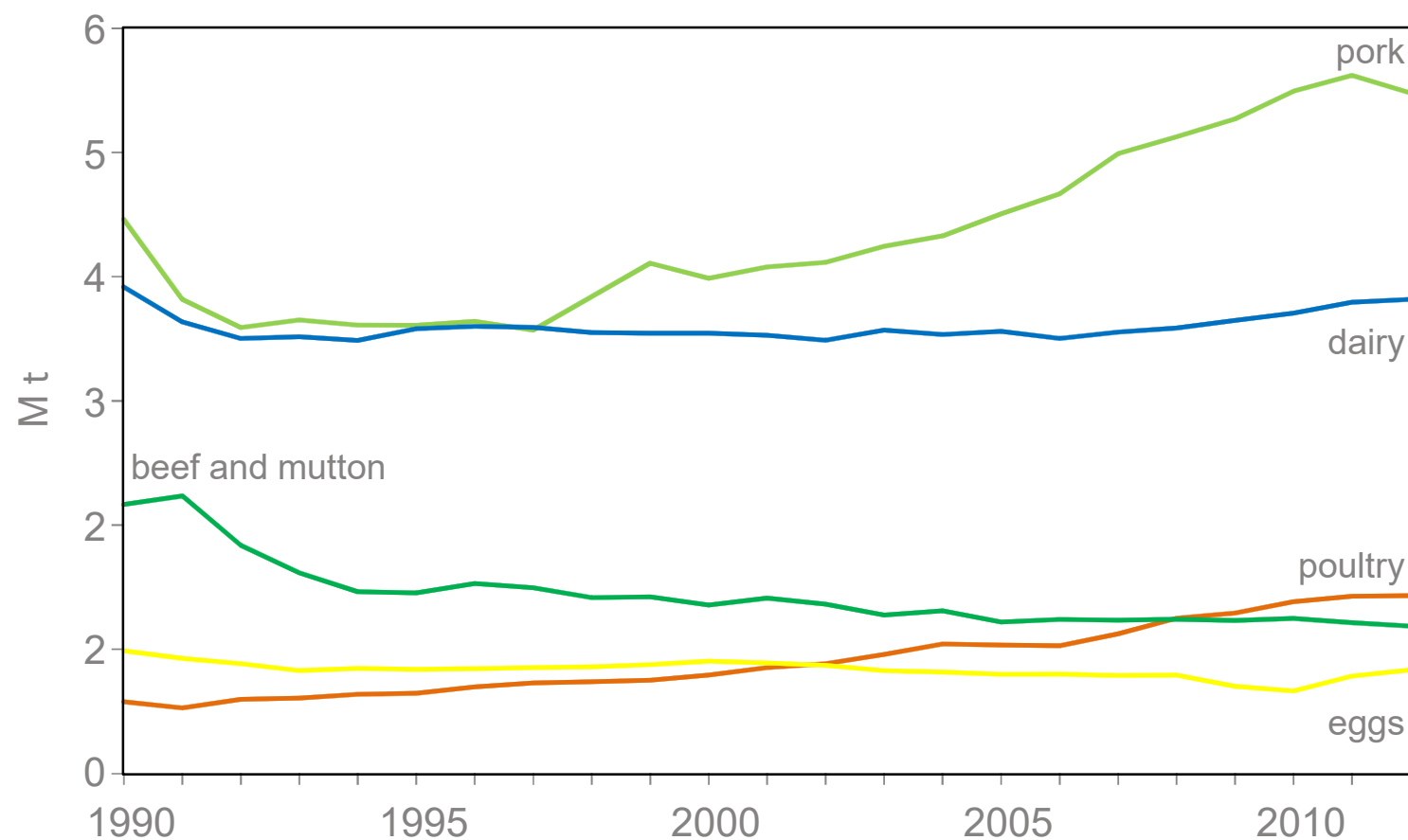


Main crops in Germany, 2005-2013



Production of meat, dairy, eggs

Germany, 1000 t, 1990–2012



Components of poultry (2012): chicken 63%, turkey 33%, duck 4%

Components of beef and mutton (2012): beef 97%, sheep 3%

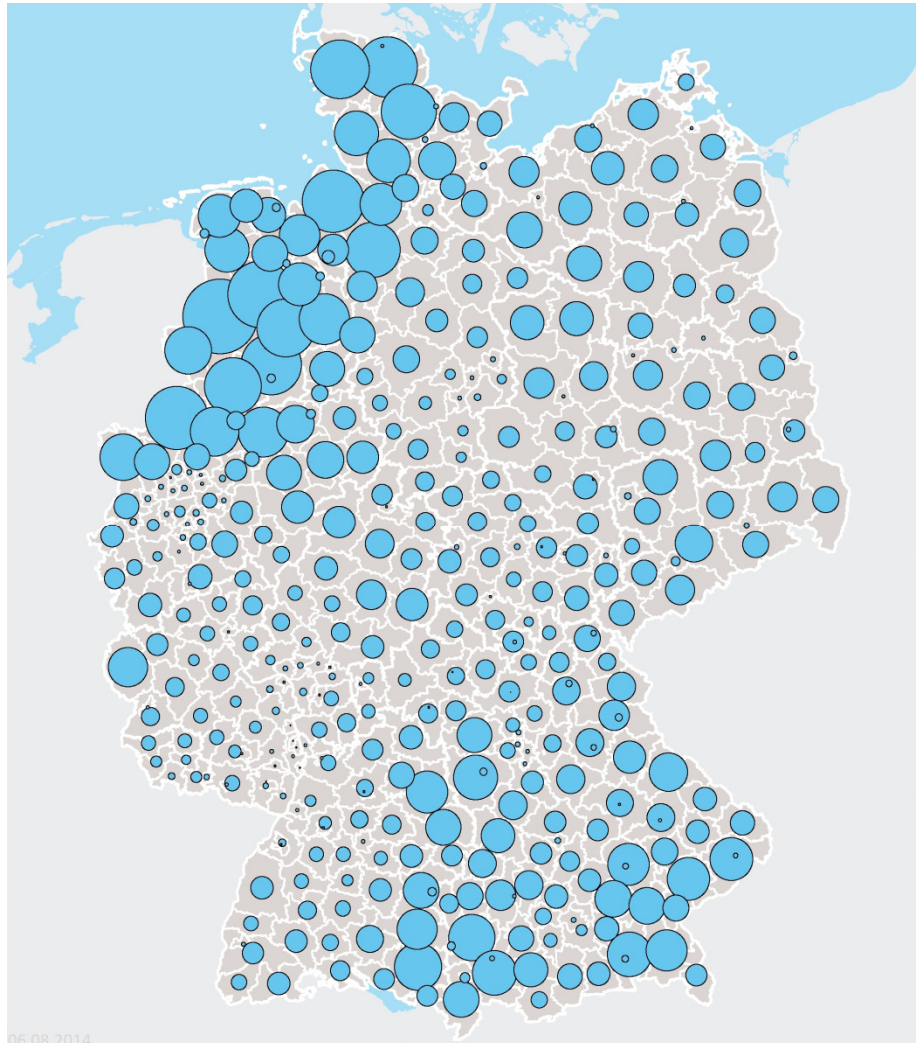
Dairy: milk converted to t dry mass assuming a dry mass content of 12.5%

Source: FAOSTAT



Spatial concentration of livestock husbandry

Germany 2010



06.08.2014

Livestock units (LU) total 2010

- Area representing 12,000 LU
- No data

Σ Germany

1999: 14,798,540 LU

2010: 12,988,170 LU

Methods: Gocht & Röder (2014) [doi
10.1080/13658816.2014.897348]

Data: Stat. Ämter der Länder, Kreisdaten der Landschaftszählung
2010 (own calculations); FDZ der Stat. Ämter des Bundes und der
Länder; Farm statistics 2010 and AFiD-Panel Agrarstruktur 1999,
2003, 2007 (own calculations: data at county level 1999-2007,
Clusterschätzer); 1999-2010 Basis-DLM – Bundesamt für
Kartographie u. Geodäsie (BKG)

Graph: Official livestock enumeration 2010 according to VG250,
BKG





❖ Agricultural Research in Germany



Agricultural Research in Germany: Structure and Funding

(only public institutions; running costs and infrastructure)



100% State (Länder)

10 Universities with agricultural faculties

Kiel	Halle
Göttingen	Weihenstephan
Bonn	Rostock
Kassel	Berlin
Gießen	Hohenheim

+ universities with agricultural departments
+ universities with agricultural chairs

Colleges & Universities of applied sciences

Kiel	Bernburg
Osnabrück	Weihenstephan
Soest	Nürtingen
Bingen	Eberswalde
Dresden	Neubrandenburg

Agric. research institutes and extension services of the Länder

in almost all of the
16 Länder

Mixed (50/50)

6 Leibniz research centres

ZALF	Ag. Landscape
IAMO	East EU Transf.
FBN	Livestock
ATB	Ag. Engineering
IGZ	Horticulture
DFA	Food Chemistry
IPK	Plant Genetics
IBG	Inland Fisheries

Other institutions

KTBL Technology
FiBL Organics
IfLS Rural structure
Veterinary U/Fac/Dept.
... more

100% Federal

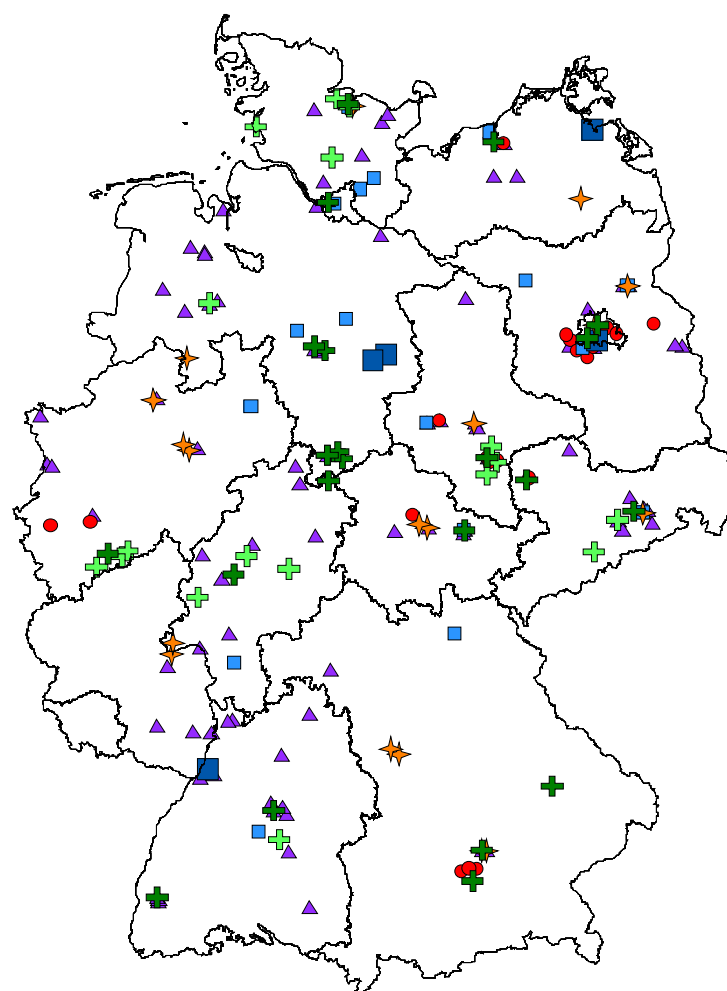


5 Federal institutes

TI	Rural Areas, Forestry, Fisheries
JKI	Cultivated Plants
FLI	Animal Health
MRI	Nutrition and Food
BfR	Consumer Protection
DBFZ	Biomass, Biofuel



Locations of agricultural research institutions



- + University
- + University off-site facilities
- ★ College, Univ. Applied Science
- Federal Research Institution
- Federal Research Institution – Institute/Department
- Research centres
- ▲ State Research Institutions



Scientific staff in agricultural research¹⁾

Destasis, 2015

■ Universities and colleges	4995
■ Research centres	1820
■ Federal research	1902
■ State research	2590
	11307

Sources: Statistisches Bundesamt, 2017: Fachserie 14, Reihe 3.6 Tab. 5.2 2015

Statistisches Bundesamt, 2016: Fachserie 11, Reihe 4.4 Tab. 10 2016:
universities & colleges incl. externally funded staff

¹⁾ Agricultural research in a broad sense, including horticulture, nutrition, forestry and veterinary medicine.

Staff numbers in full-time equivalents, excluding administration (DESTASIS)



Funds for research and research topics

- Federal ministries, avg 2011–2013: **77 M€** (food, agric., consumer prot.)
- Federal Ministry of Science, 2010:
 - e.g. Plant Research/World Food Affairs: **16 M€**
 - e.g. Climate Protection: **86 M€**
 - e.g. Nutrition and Agricultural Research/Networks of Competence: **14 M€**
- Federal Ministry of Agriculture, 2010
 - e.g. Innovations: **27 M€**
 - e.g. Renewable Resources: **39 M€**
 - e.g. Federal Organic Farming Scheme: **9 M€**
- German research fund (DFG), 2011–2013: **44 M€**
- EU, DG Research: food/agric/fish/biotech, FP7: **25 M€**
- EU, DG Agri (research, innovation, transfer), 2011 : **1000 M€**



Sources: BMBF, Bundeshaushaltsplan 2010 and
DFG Förderatlas 2015, EIP Agri & own calculations





❖ DAFA — why and how?

Why a *German Agricultural Research Alliance*?

- Join forces to maintain the functioning of a systemic science in a heterogeneous landscape
 - Funding, infrastructure, staff, goals
- Make agriculture a proactive player in solving societal and environmental challenges
 - Biodiversity, climate, food security, sustainability, clean water, rural livelihood
- Respond to consumer demands and expectations
 - Cheap food, high quality, animal welfare, organic produce, no-GMO
- Respond to technological and societal developments
 - Digitalization, new molecular technologies, robotics
- Provide information about agricultural research
 - Access to experts, sources of information



Members



Members

62 Members

16 Universities

7 Universities of applied science, Colleges

5 Federal research institutions

14 State research institutes and facilities

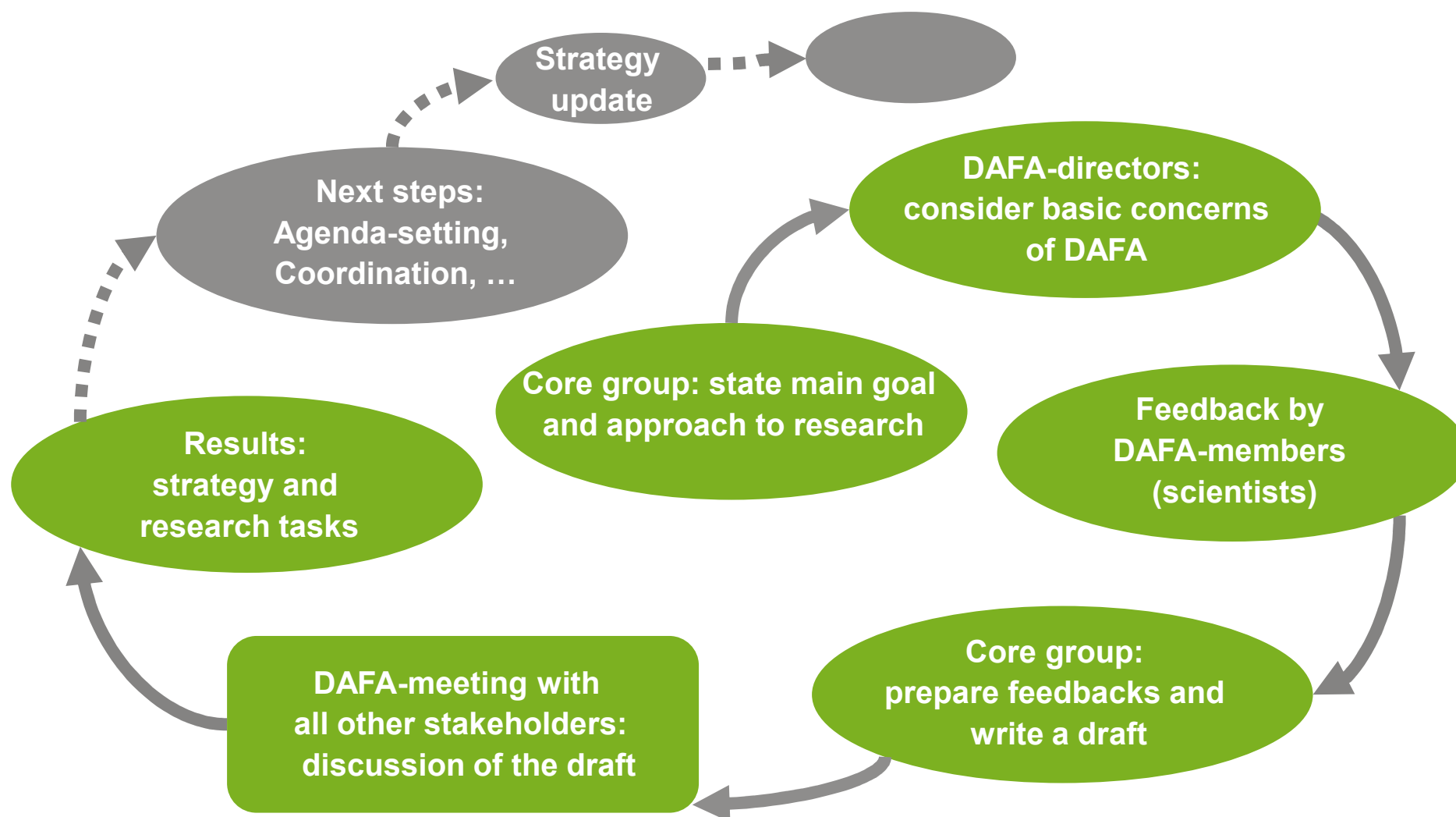
20 Other research institutes and centres

01.11.2017

**Working together in order to
increase the capacity of German ag research
for effective practical application
and increased international visibility**

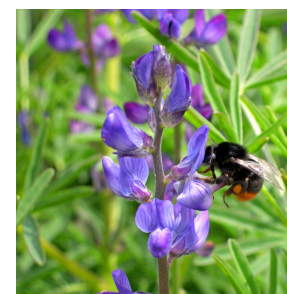
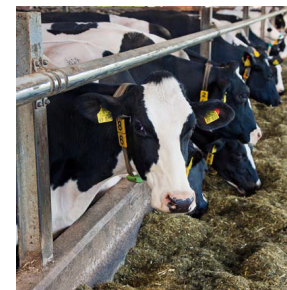
1. Thematic Forums
2. Strategy Forums
3. ExpertAtlas

Thematic Forum – work-flow



Overview: current thematic forums

- Livestock Forum
- Legumes Forum
- Grassland Forum
- Aquaculture Forum
- Organic farming and food Forum
- Strategic Forum



Experiences gained in the first six years

- New spirit in collaboration, across disciplines and ag actors
- Participatory processes need time
 - initially unclear roles
 - different terminologies
 - scientists must accept priority of relevance
- Science-policy-research processes require
 - clear communication, mutual trust, and understanding of processes relevant for each actor
 - a lot of patience when ag policy affects other areas of policy (always)
- Implementation research and evaluation of projects are necessary for adjusting goals, resources or conditions in order obtain lasting practical impacts
- Swiss Agricultural Research Alliance *in preparation*



Thank you!



to be continued...

- ▶ The four dimensions of science in the G20 countries
- ▶ *Coffee break*
- ▶ The DAFA livestock strategy
- ▶ DAFA's strategy for organic farming and food

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