



*Integrated Pest Management –
the way forward to Sustainable Agricultural Production*

***The Swiss agricultural policy –
how a policy contributes to the
sustainable use of pesticides***

Eva Reinhard

*Assistant Director of the Federal Office for Agriculture
(FOAG), Berne, Switzerland*

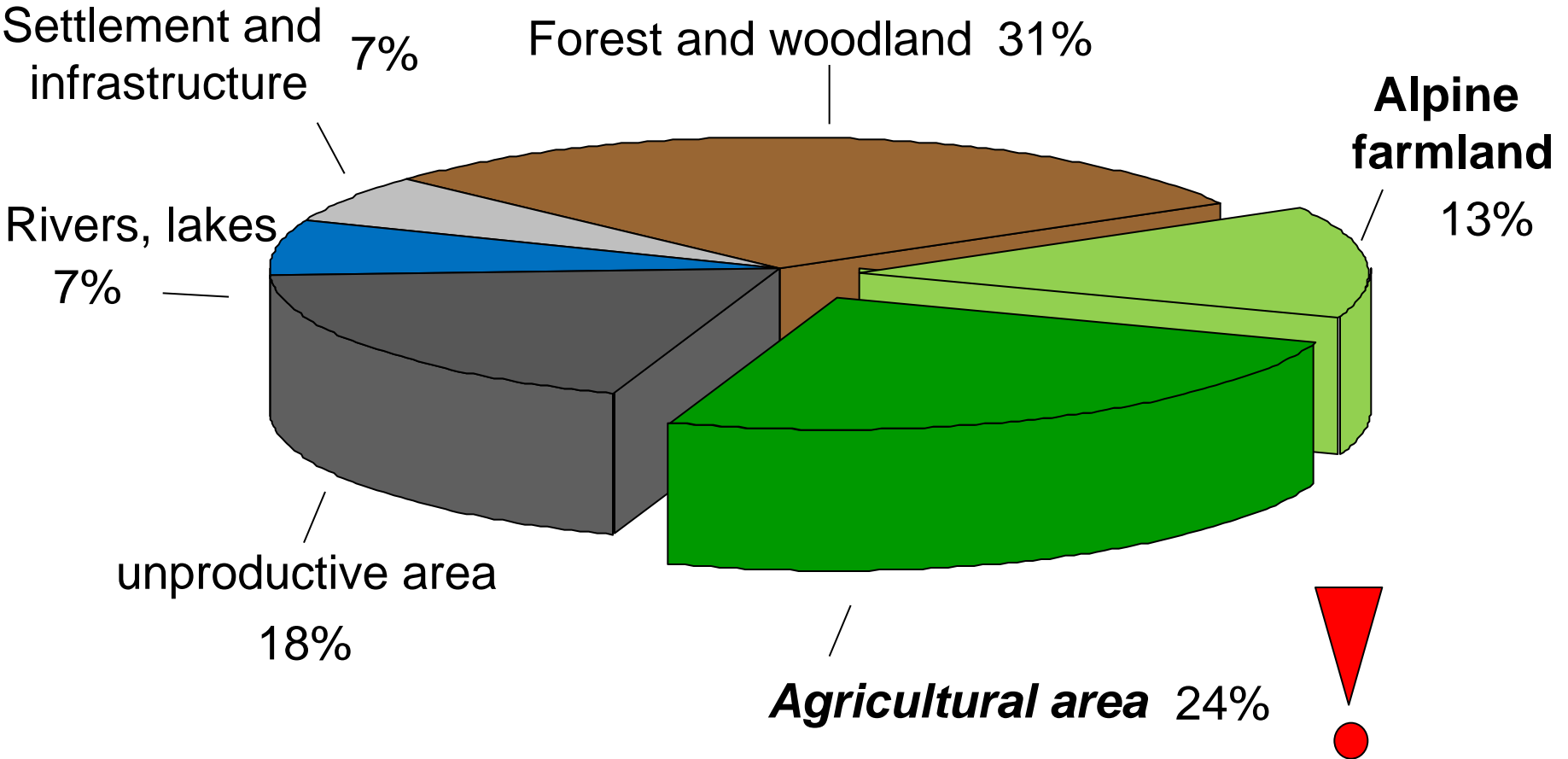
Brussels 19th June 2012



1. Some facts and figures

Territory Switzerland

Total area: 41'300 km²

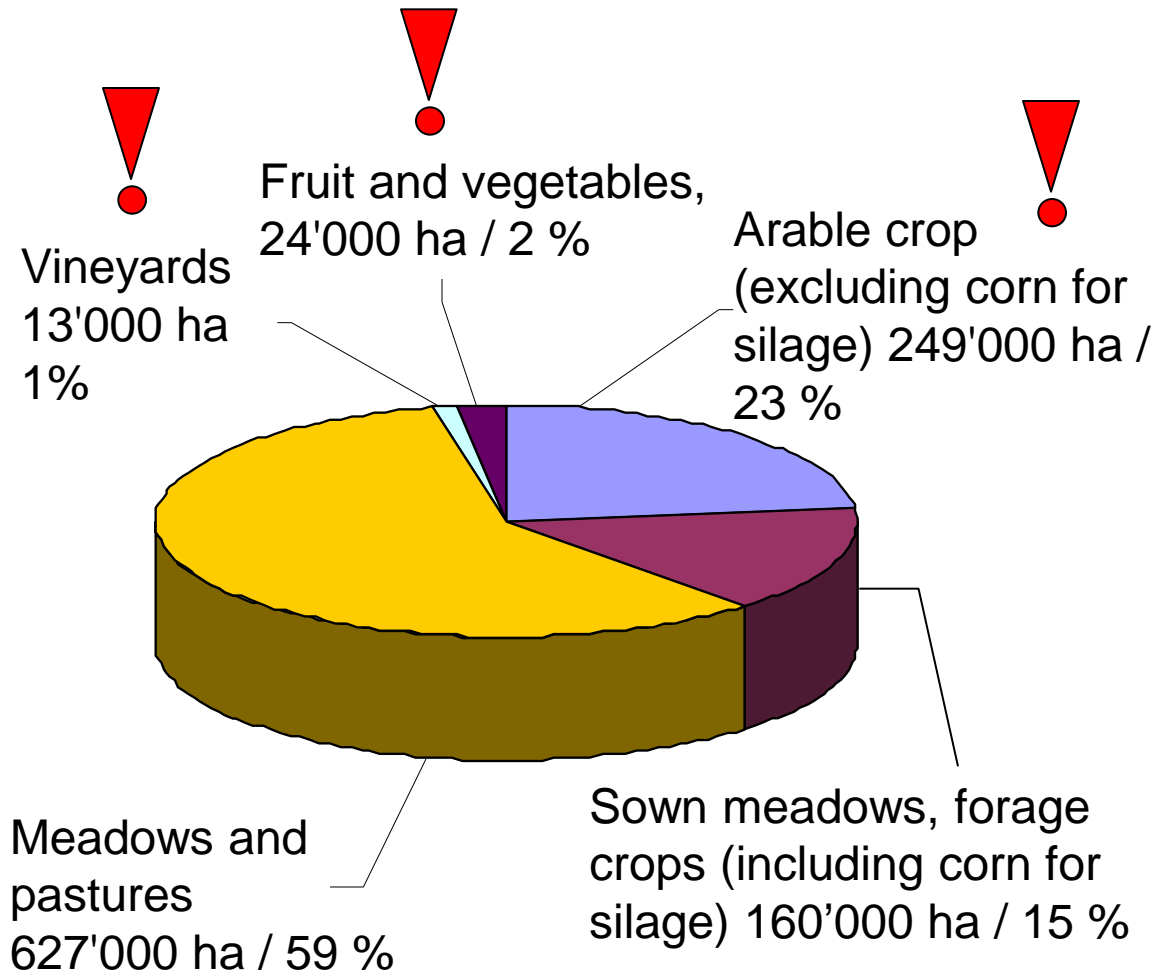




1. Some facts an figures

Agricultural area

one million hectares





2. Brief historical review

Postwar periode up to 1993

highly state-controlled, guaranteed prices,
support linked to the production

- Neither quantity nor prices were in line with the market
- Negativ environmental impact



1993 – a far-reaching reform

Start with direct payment for *all* the farmers
(not only in mountain areas)

- Decoupling of price and income policy,
- Price reductions
- Incentives for specific ecological services (e.g. biodiversity, organic farming)





2. Brief historical review

1996 – New article in the Federal Constitution



Art. 104

¹The Confederation shall ensure that agriculture makes a major contribution through sustainable production geared to market demands to

- a. ensuring food supplies for the population;
- b. maintaining the natural resources and preserving the countryside;
- c. maintaining a decentralised settlement pattern in rural areas.

Article was accepted in a plebiscite by a large majority of the electorate.



2. Brief historical review

Proof of ecological performance (PEP) in the Federal Constitution

Art. 104

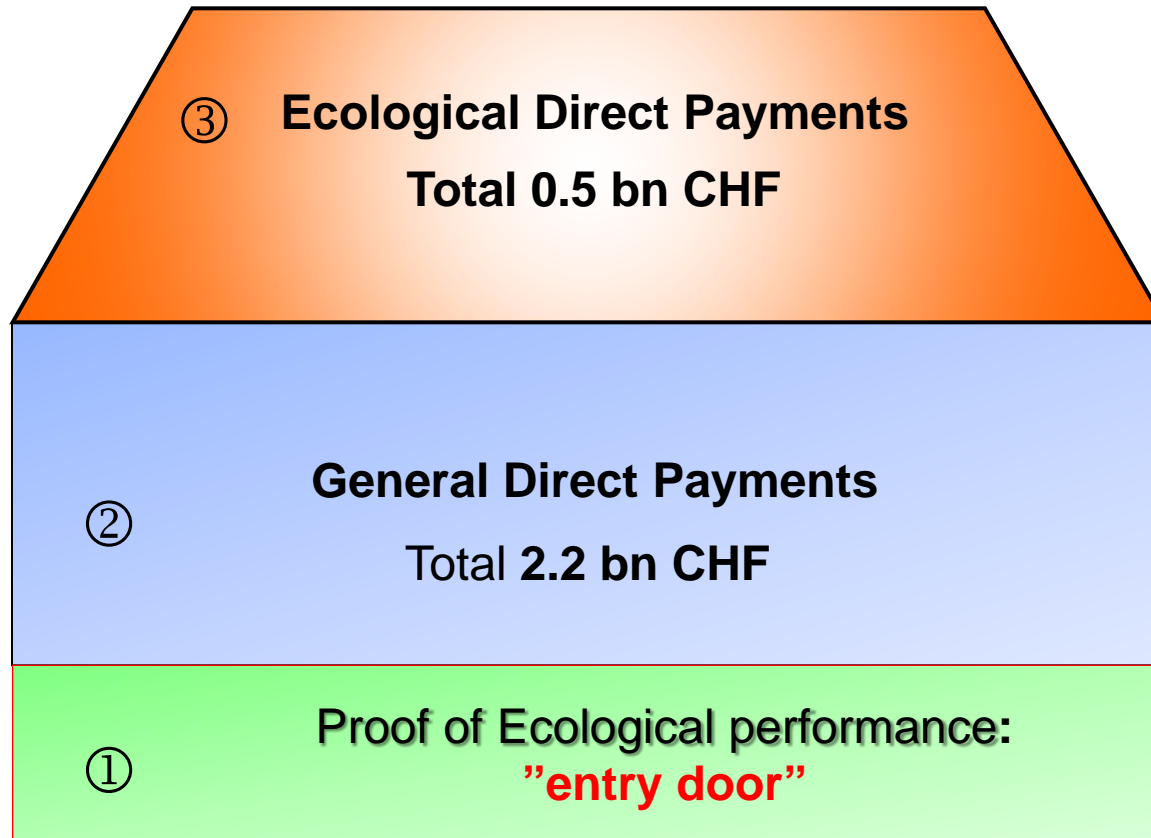
³ The *Confederation* shall devise measures in such a way as to ensure that the agricultural sector is able to fulfil its multifunctional tasks. It shall be given in particular the following powers and tasks:

- a. It shall supplement farmers' incomes through direct payments aimed at ensuring an appropriate remuneration for the services provided, on condition that **proof of ecological performance (PEP)** is provided.
- b. It shall promote methods of production that are close to nature, environmentally acceptable and animal-friendly through economic incentives.



2. Brief historical review

Overview: Policies and instruments





3. Proof for ecological performance (PEP)

Proof of ecological performance (PEP)

Regulated within the ***Agriculture Act (Art. 70)***

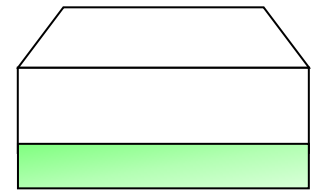
The **elements** of Proof for ecological performance (PEP) cover agro-ecological pre-conditions such as:

- *an appropriate share in ecological compensation areas (min 7% of agricultural land),*
- *compulsory crop rotation,*
- *a well-adjusted fertiliser balance,*
- *measures for soil protection,*
- *restricted use of plant protection products,*
- *animal welfare standards.*



3. Proof for ecological performance (PEP)

Ecological compensation areas



An appropriate share in ecological compensation areas (min 7% of agricultural land).

2 Examples in arable land:

- **Crop preservation strips**
Extensively managed strips, no N-fertilizer and no weed control. 3 to 12 m wide.
- **Fallow**
Perennial strips of land, seeded with native wild flowers. No fertilizer, weeds control only by single plan application. Cutting (harvesting) in wintertime only.



3. Proof for ecological performance (PEP)

Compulsory crop rotation



Maximum acceptable share of the main crops *per farm* is limited in the annual crop rotation

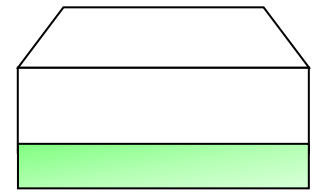
- Cereals (without Corn) 66%
- Wheat 50%
- Corn 40% (if no till: 50%)
- Sugar beets 25%
- Potatoes 25%
- Rapes, soya 25%

Advantage: Avoids crop rotation related diseases or pests (i.e. *Rhizoctonia cerealis* (eyespot) or *Diabrotica spp.*).



3. Proof for ecological performance (PEP)

Selected and targeted application of plant protection products



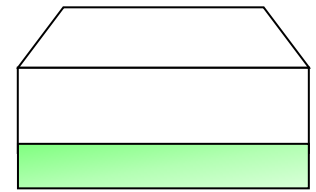
Treatment only if necessary:

- warning systems for pests and plant diseases and intervention thresholds for pests have to be respected.
- restriction of use of insecticides with negative impact on beneficial insects in cereal and potato cultures



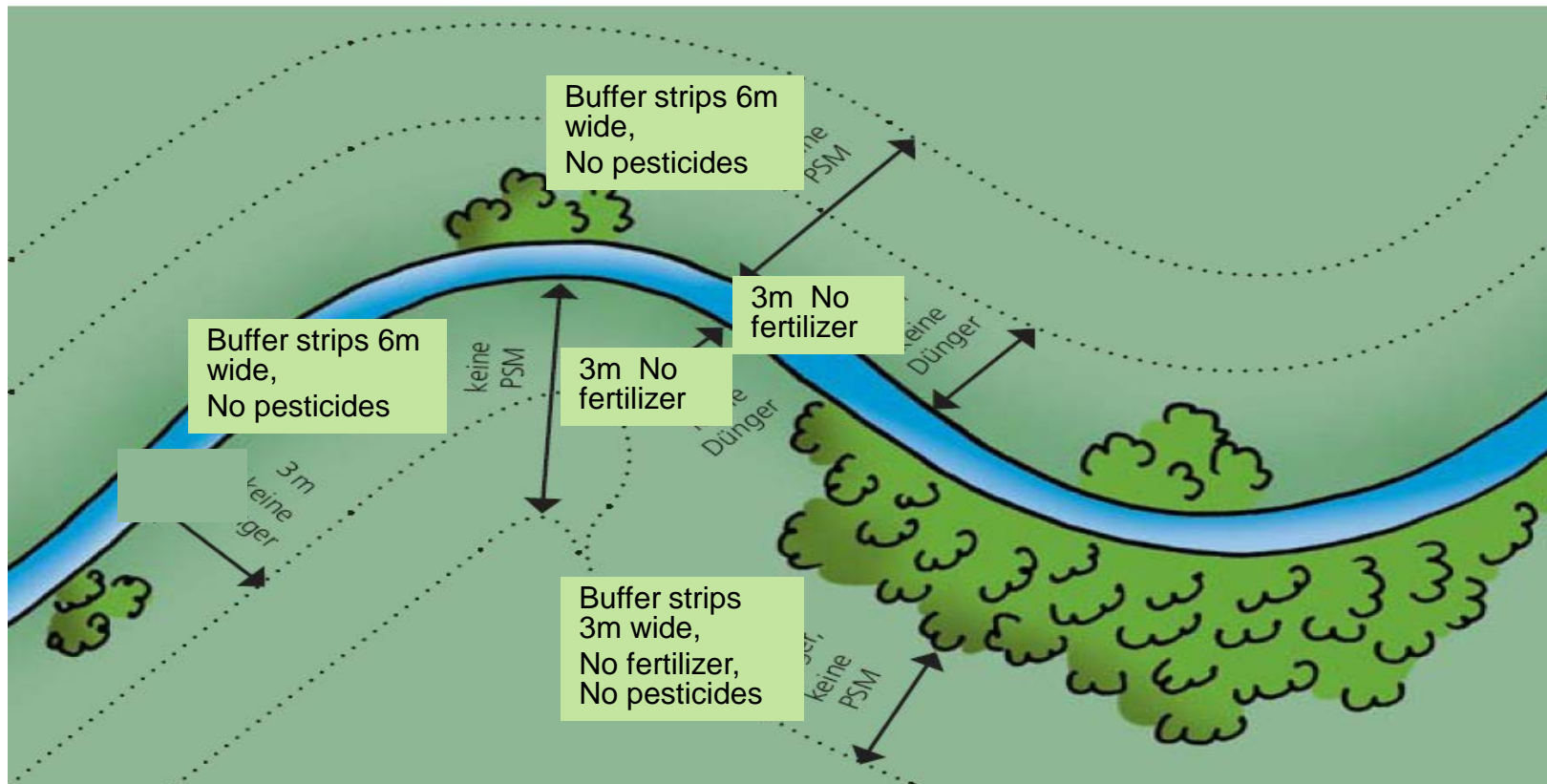


3. Proof for ecological performance (PEP)



Measures to protect surface water

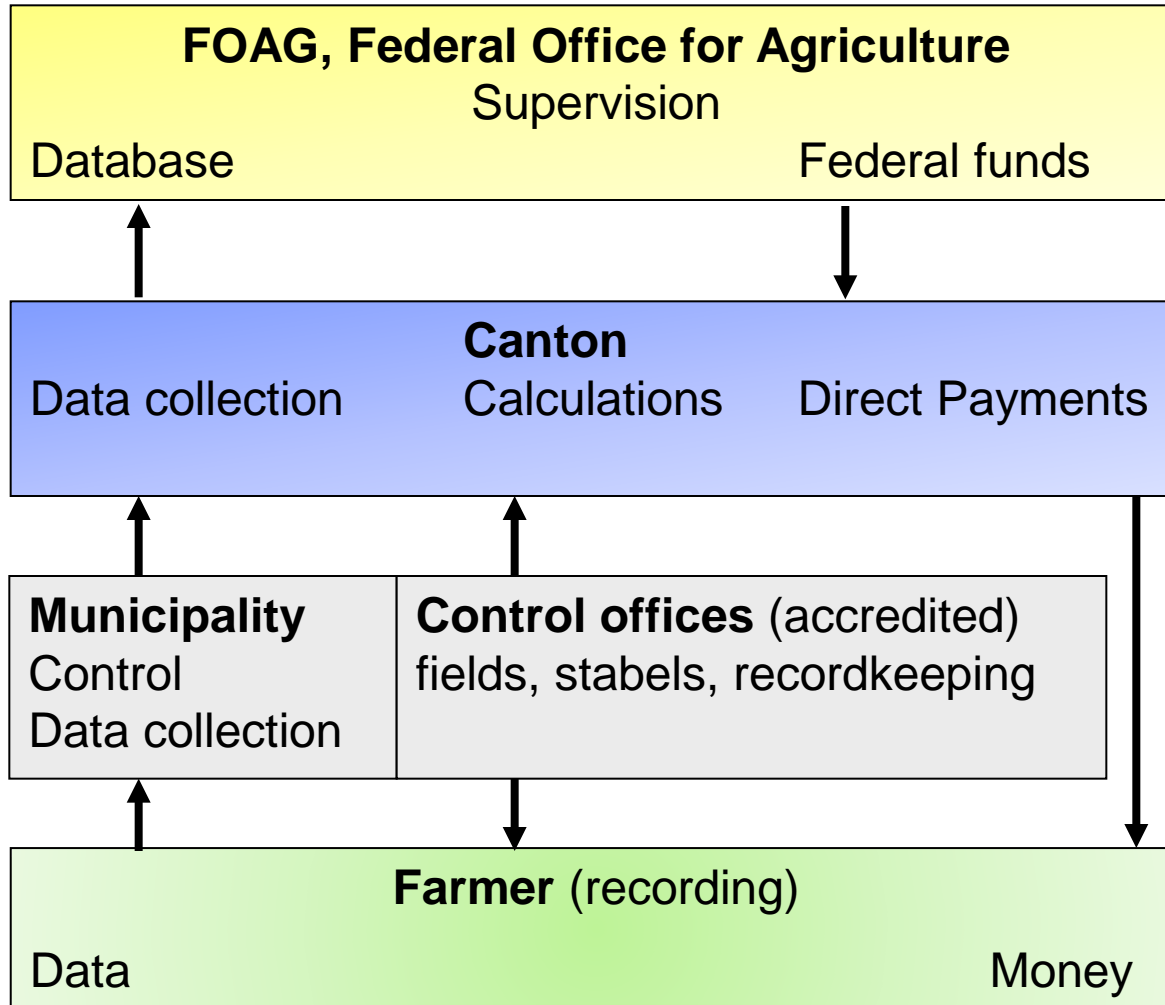
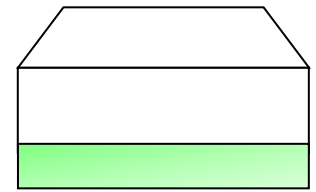
- regulation for inspection of sprayer (every 4 years),
- rinsing sprayers on the fields,
- untreated buffer strips along surface waters





3. Proof for ecological performance (PEP)

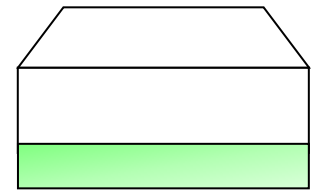
Implementation and control



- Check on the farm*
- at least every 4th year
 - risk based
 - ...



3. Proof for ecological performance (PEP)



Control activities: 2010

- 52'000 farms received direct payments (= 92% of all Swiss farms)
- 21'000 farms (41%) were inspected by canton or accredited organisations on the PEP
- 2'400 farms (4.6%) did not comply with the requirements of PEP
- Total cutting of direct payments: 2.7 Mio. SFr.





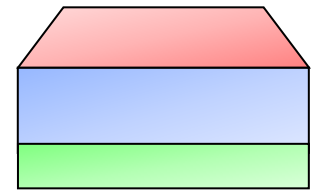
3. Proof for ecological performance (PEP)

Implementation: Costs and competences



- Case studies in two cantons (ZH, GR):
The costs of implementation and control comprises 2-3% of the total amount of direct payments.
- Challenges:
Coordination of inspections,
Inspectors: an excellent expert knowledge is needed

3. Proof for ecological performance (PEP)

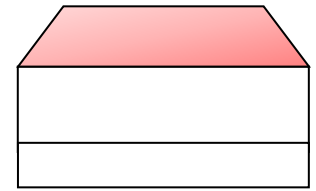


Importance of direct payments

Share of direct payments in
Farm Gross Profits according to regions 2010

	Total	plain	hillside	mountain
Number of farms	3'202	1'358	998	846
Average farm size (in ha)	21.06	22.17	19.71	20.55
	<i>Fr.</i>	<i>Fr.</i>	<i>Fr.</i>	<i>Fr.</i>
General Direct payments	45'346	39'541	45'237	55'342
Ecological direct payments	9'014	10'018	9'338	6'972
Total Direct payments	54'360	49'559	54'575	62'314
Gross profit	250'181	304'343	234'042	174'501
Proportion of gross profit in direct payments (in %)	21.7	16.3	23.3	35.7

ART / Research station



Successful incentives (1/3)

Programs (with financial aid = direct payments), in which farmers can voluntarily participate, have proven to be successful

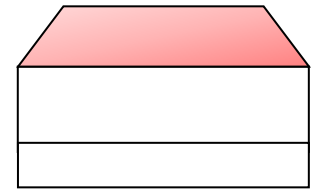
Low-input Cereals and Oilseed Rape Production:

- Promoting the cultivation of grain and rape without plant growth regulators, fungicides and insecticides. Only herbicide can be applied.
- Restriction applies to all wheat, feed grain or rape fields of the entire farm.
- Combination with label possible.

Low-input Cereals Production: 70'000 ha, 45%
Low-input Rape Production: 3'000 ha, 10%



4. Program / Examples



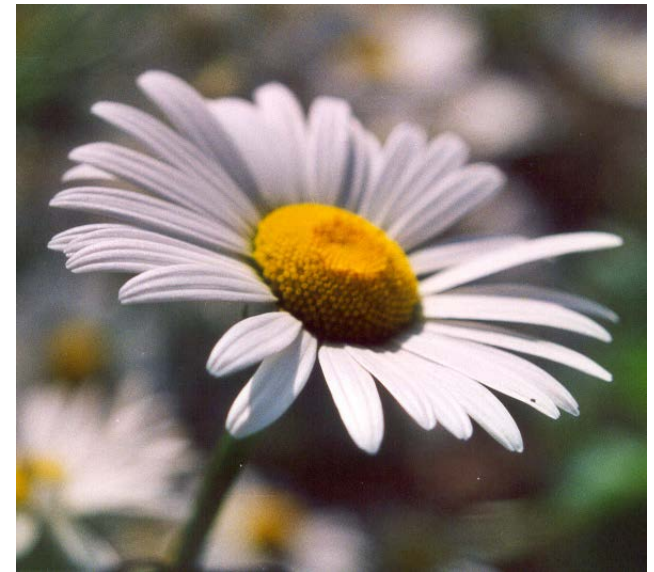
Successful incentives (2/3)

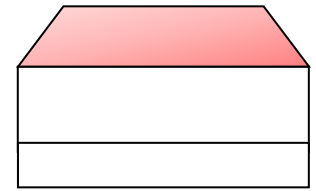
Programs (with financial aid = direct payments), in which farmers can voluntarily participate, have proven to be successful

Organic Agriculture:

The use of synthetic-chemically manufactured pesticides for the entire farm are prohibited.

*10% of CH-farms,
mainly in mountain region with
roughage consuming livestock.*





Successful incentives (3/3)

Programs (with financial aid = direct payments), in which farmers can voluntarily participate, have proven to be successful

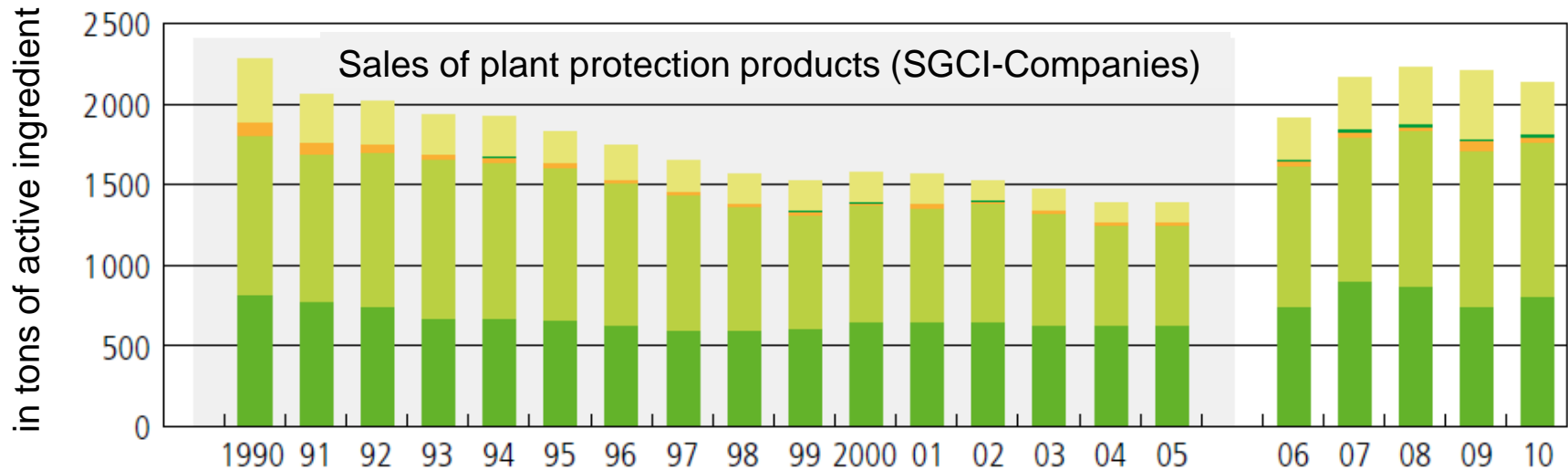
Special projects in sensitive areas:

- Government supports projects to reduce nitrates and pesticides in ground water;
- The nitrate and pesticides content can be reduced to acceptable levels in sensitive areas through a targeted adjustment in agricultural practices;
- The cost burden incumbent on farmers through the imposition of special measures that are arranged contractually, is assumed by the government and other institutions.

5. Preliminary conclusion



Reduction of plant protection products

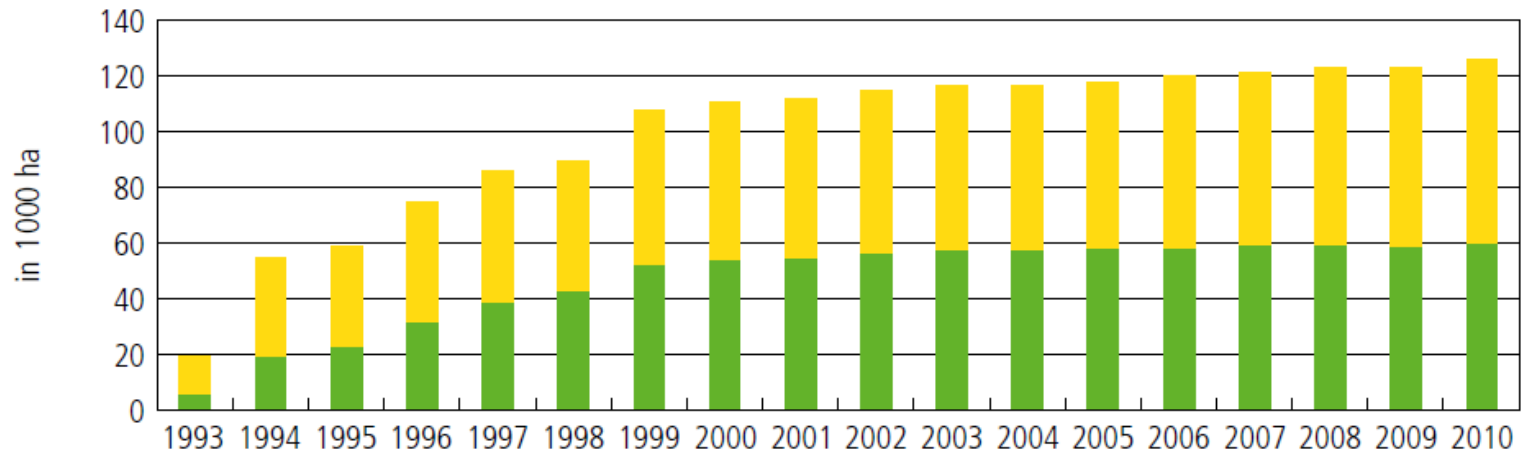


- Insecticides
- Rodenticides
- Plant growth regulators
- Fungicides
- Hebicides



5. Preliminary conclusion

Development of ecological compensation areas



- Mountain region
- Valley region

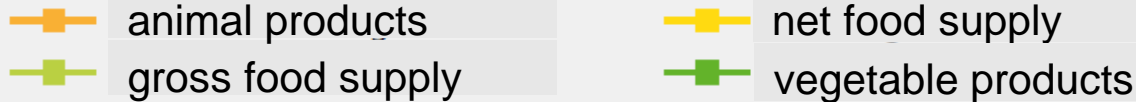
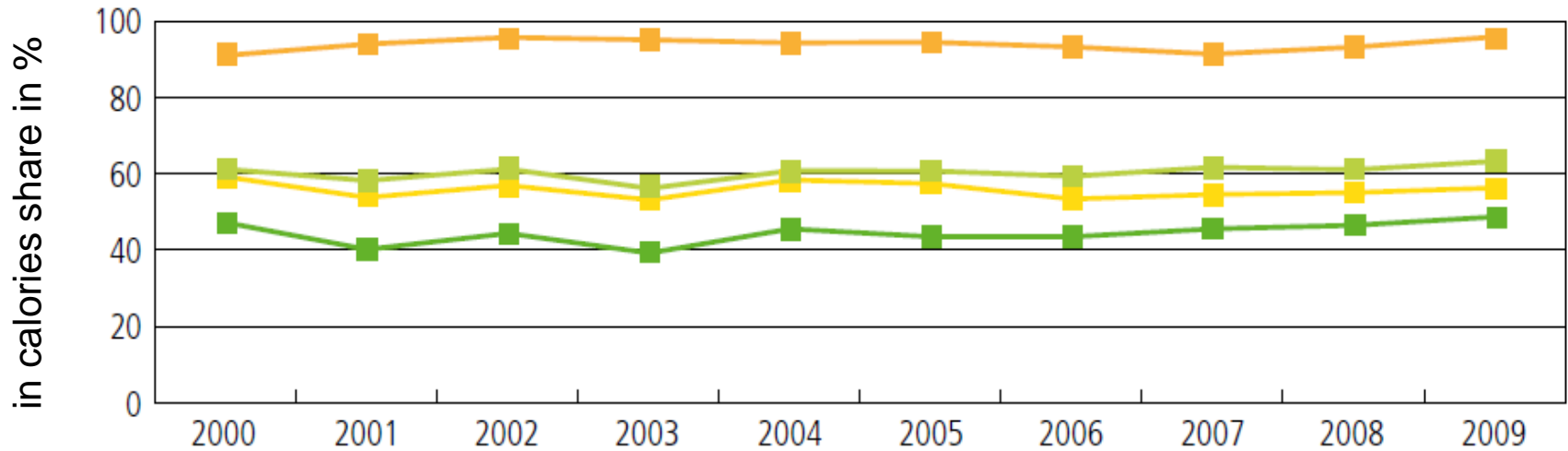
Quelle: BLW

Almost pesticide-free zones
only targeted herbicides treatments against harmful species admitted



5. Preliminary conclusion

Development of self-sufficiency



Quelle: SBV

Farmers produce 60% of Switzerland's food consumption, although the population has grown by 10% since 2001.

5. Preliminary conclusion



Clean water

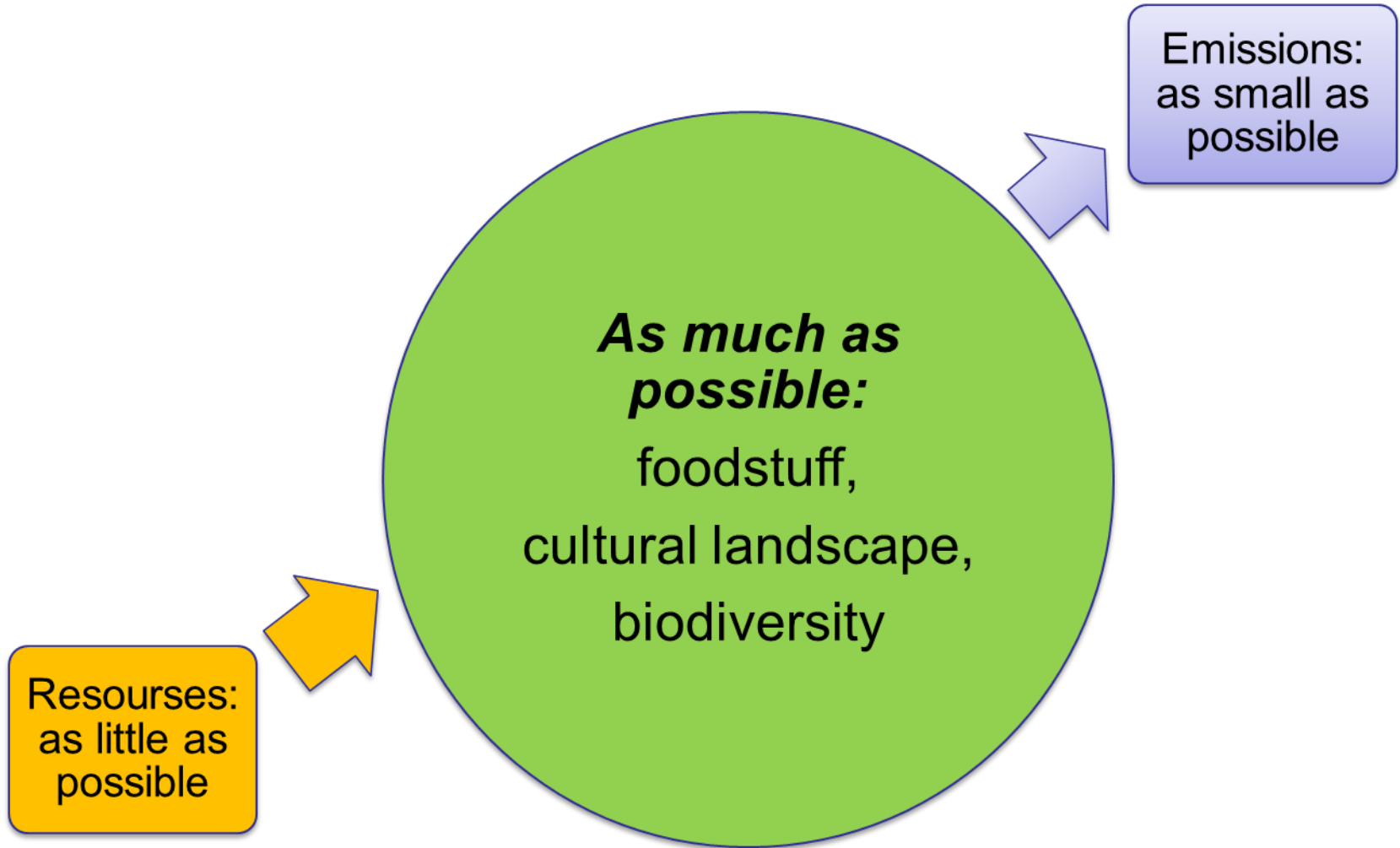


*Swimming
in the Rhine (Basel)*

Agriculture contributes to maintain clean surface waters
N.B: 1965: Only 14% of the Swiss population was connected to a central wastewater treatment plant. Today: 98%



Major challenges in one word/world





Further progress

- Generally: Standard of PEP will remain on a high level;
- Standards in public Training and Advisor Services have to be maintained;
- Use of pesticides: better targeted and more ecological compatible
 - Further programs (ongoing reform) within specific incentives for an efficient use of resources are foreseen. Examples:
 - promotion of precise techniques for the application of pesticides: «Droplegs»
 - accurate disposal of leftovers of pesticides: «Biobed / Biobag»
 - **NEW IDEAS / NEW APPROACHES**



THANK YOU FOR THE ATTENTION!

