

Baltic HELCOM  
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# Agriculture and eutrophication – facts and myths

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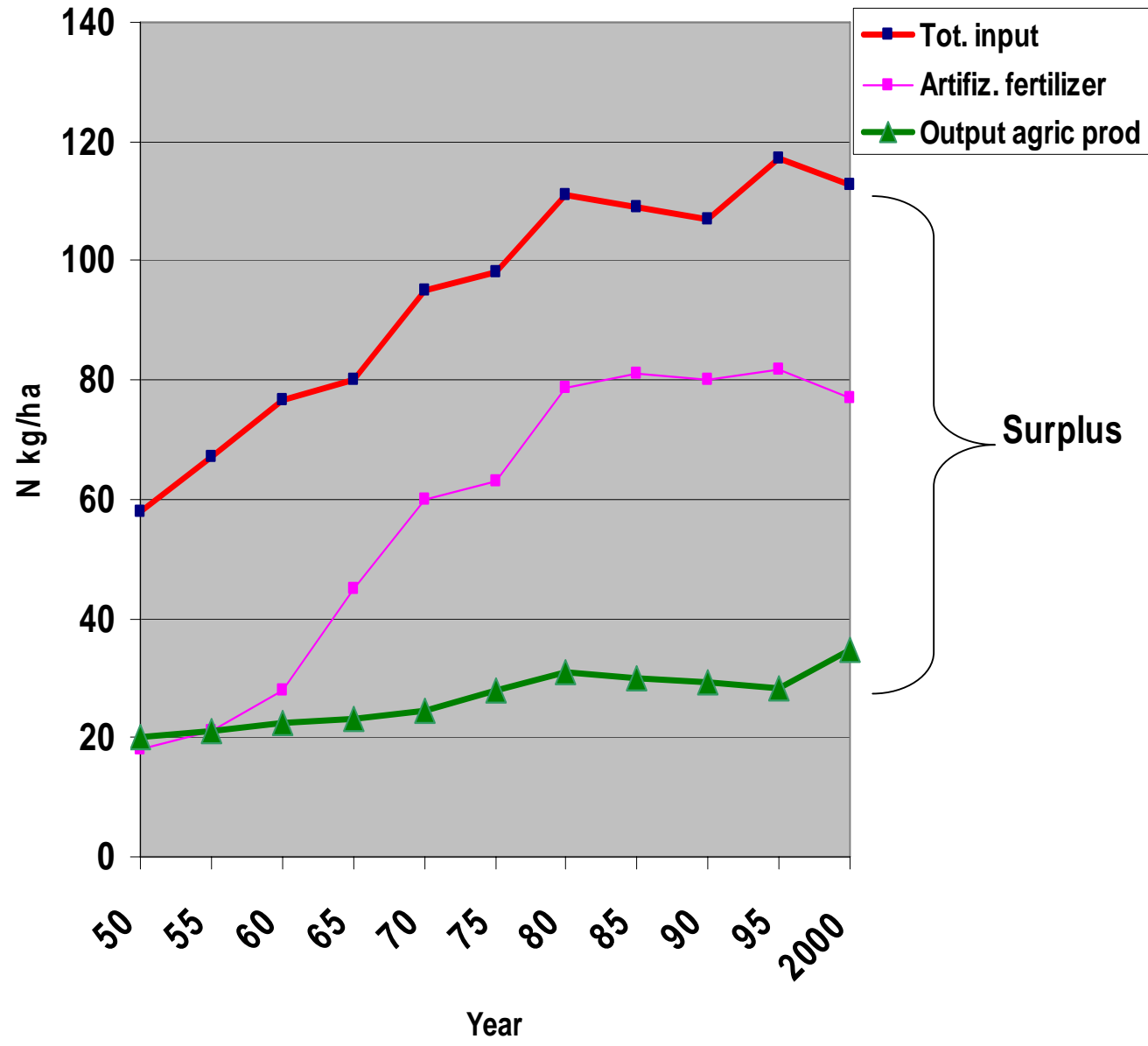
## **AGRICULTURE and EUTROPHICATION**

**Baltic agriculture – contribute with approx 50 % of the nutrient load from diffuse and point sources**

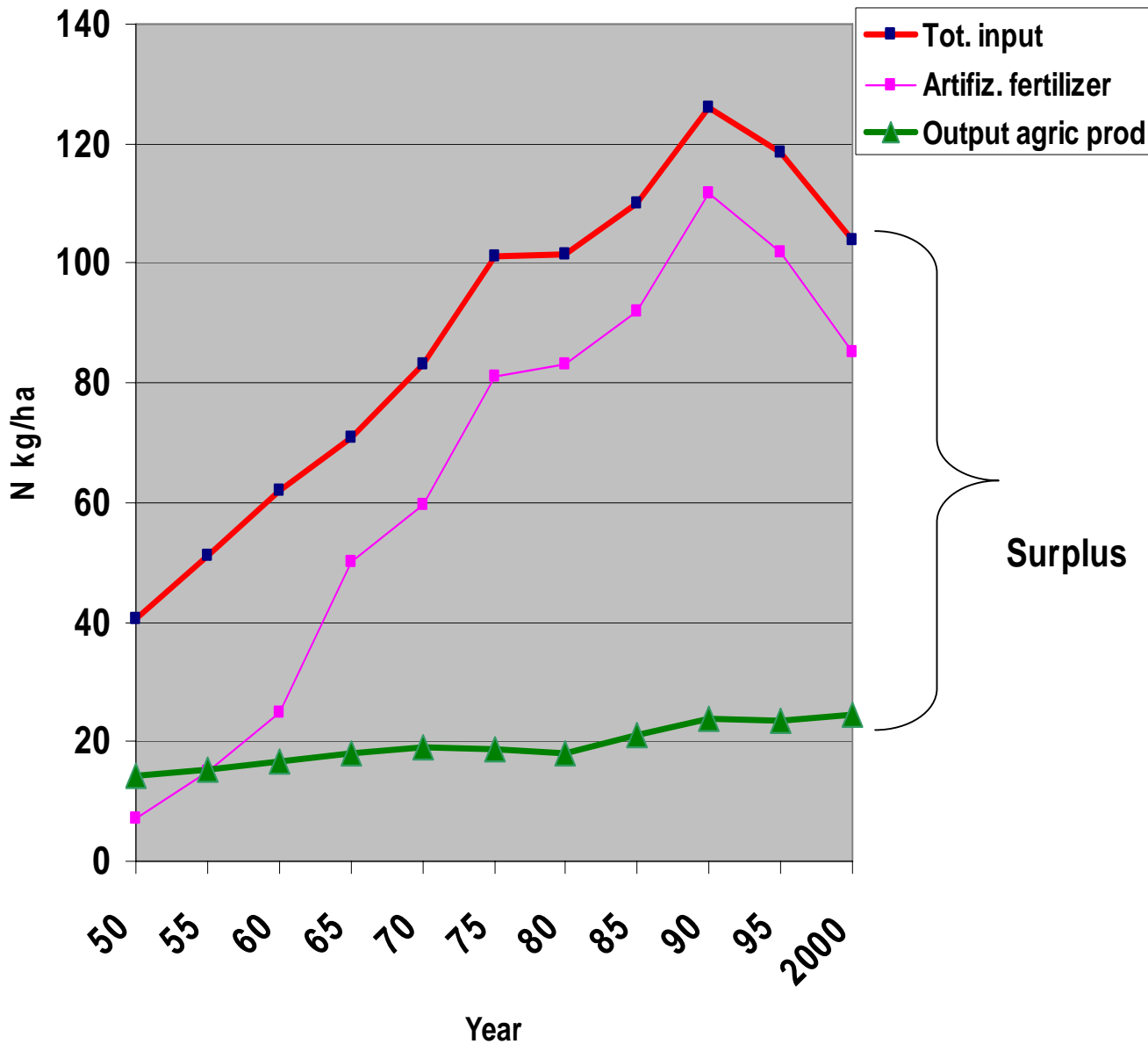
# Surplus definition

The on-farm data includes the amount of artificial fertiliser and imported fodder used, data from known nitrogen load and estimated nitrogen fixation from the atmosphere (input) and the amount of animal and food produced and sold from the farm (output). The difference between this input and output of plant nutrients is defined as a surplus of plant nutrients and is the same as potential losses to the environment.

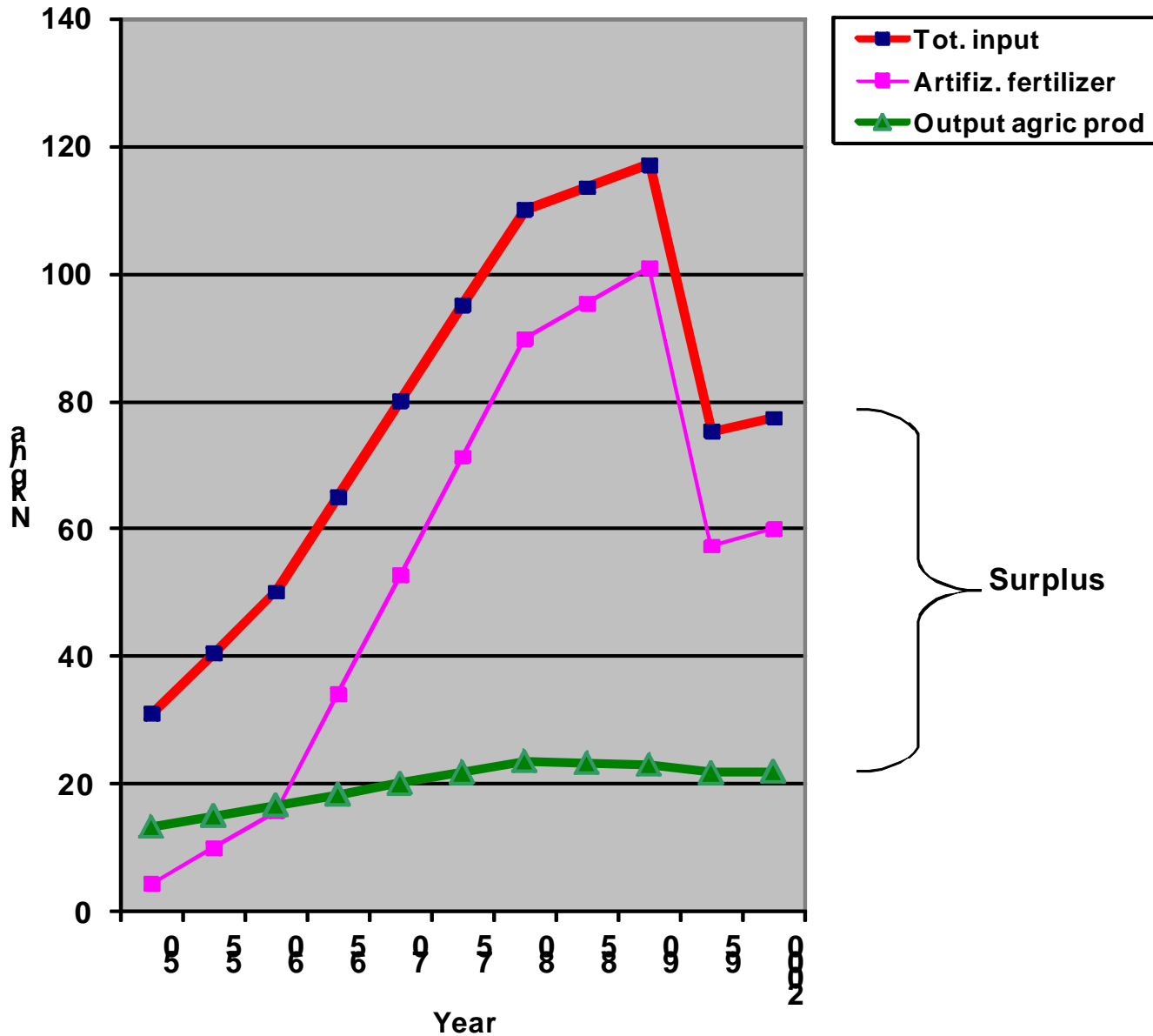
### Input - Output Agricultural Sweden



### Input - Output Agriculture Finland

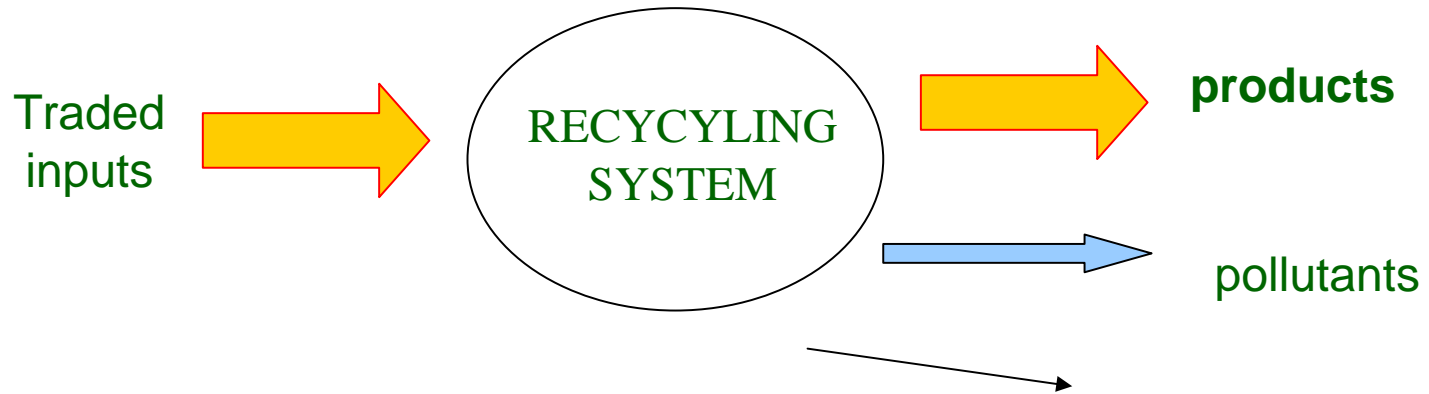


Input - Output Agriculture Poland

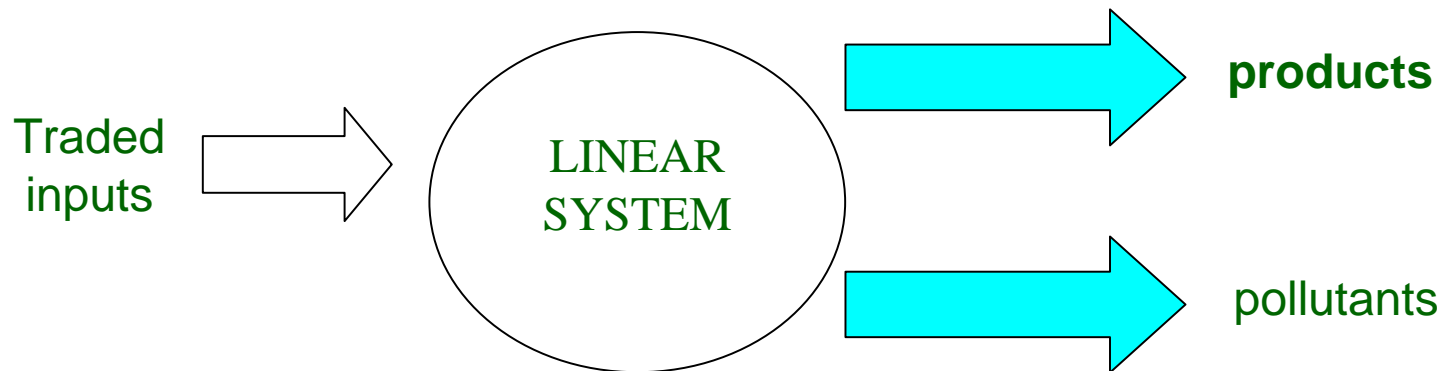


# Recycling and linear system of agriculture

Pre-industrialized multi-functional agricultural system



Industrialised and specialised agricultural system



## Baltic Sea Region need Economic Incentives to steer towards “non-nutrient-surplus” farming

- To reach the BSAP Goal in 2021 – A Baltic Sea with Good Ecological and Environmental Status
- Economic incentives on balanced Fertilisation at farm level (strong enough to give a change)
- *Fees/taxes (“stick”) for all N and P imported to a farm unit (e g artificial fertilizers, fodder)*  
Or
- *Subsidies (“carrot”) for reduced import of N and P to a farm unit*
- Such incentives will disfavor big animal farms, and favor nutrient balanced agri-production



# Animal's statistic in Poland in 2007

5 696 200 cattle including cows

18 128 500 pigs including sows

In 2007 private sector controlled 98,4% cattle stock  
and 99,4% pigs

70,6% cows are kept in individual holdings with 5 cows  
and more

85,5% pigs are kept in individual holdings with 20 animals  
and more

# Industrial animal farms as agricultural point sources Hot Spots

## Large-scale animal farming in short

- animal farms with high animal density (livestock number) – IPPC farms (installations with more than 2000 productive pigs or 750 sows or 40000 places for poultry),
- also cattle farms with more than 400 AU, as well as sheep, goats, horses and fur animals battery breeding installations with equivalent number of livestock should be considered,
- farms characteristic by highly concentrated and industrialized animal production with significant individual impact on environment, mainly because of high production of natural fertilizers (manure).

# Why industrial farms are so crucial in the eutrophication context?

- even if they possess integrated permit...



- for example:

IPPC farm  
with 2500  
productive  
pigs

= 312,5 AU



1 AU of  
productive  
(slaughter)  
hog

=

0,18 kgN/day  
and  
0,053 kgP/day

$$312,5 \times 0,18 = 56,25 \text{ [kgN/day]}$$

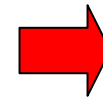
$$312,5 \times 0,053 = 16,56 \text{ [kgP/day]}$$

if we assume, that productive pig give  
approximately 3 times more excrement  
than humans...

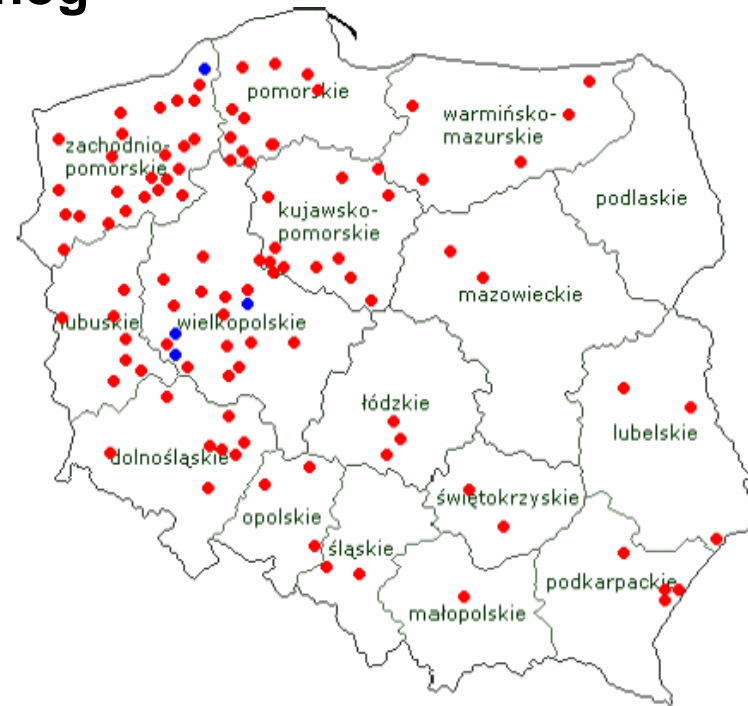
IPPC farm  
with 2500  
productive  
pigs

is equivalent to

village with **830**  
inhabitants, without  
sewage treatment  
plant



**1314 MgN/year  
and  
387 MgP/year**



# Fertilization plans – crucial requirement for all farms

IPPC Industrial farms needs an Integrated permit, incl. A Fertilization plans adopted by both agricultural & environmental authorities

Fertilization plans needed to control Nitrate Directive (170 kg N / ha)

Introduce as Mandatory for all big intensive farms -  
Fertilization plans adopted by agri & environmental authorities

# Polish Agriculture Support Policy

In 2007, the financial envelope for direct payments was planned in amount of PLN 8 752 billion, PLN 463 million as a sugar payment and PLN 14,7 million in the form of energy subsidies to rape.

In 2007 1 451 977 farmers applied for direct payments.

Rural development Plan in 2007

Support of agri-environmental enterprises - PLN 810.8 million

# Use of mineral fertilisers

Average usage of mineral fertilisers fluctuated from circa 70 kg/ha in the group of holdings up to 3 ha of UAA (Unit Arable Area) to over 176 kg/ha in the group holdings of 100 ha and more

## Use of plant protection product (pesticides)

The use of plant protection products in kg of active substance per 1 ha arable land and orchards fell was 1,2 kg compared to 0,62 kg in 2000 year.

In 2007 organic farms constituted 0,97% of all agriculture holdings and 0,37% of the farming area.

## **Baltic Sea Region should constantly influence the CAP**

- Create EU Agri-subsidies system that contribute in solving the Baltic Eutrophication problem
- Combine Agri-subsidies, with strict requirements for BAP in Agriculture
- Give Extra Agri-subsidies, to farms that apply high environmental standards to avoid nutrient run-off
  - manure storage for 9 months
  - no spreading of fertilisers in autumn (no green fields) and winter-time



## **Baltic Sea Region should constantly influence the CAP**

- **Wider buffer zones, no spreading of fertilisers, along water watercourses and ditches**
- **Requirement on balanced Fertilisation at farm or at „local“ area level**
- **Full and proper implementation of EU IPPC directive on Industrial farms**

### **Final conclusions:**

- 1. More recycling farms, nutrient-balanced**
- 2. Stop for non-nutrient balanced animal industry farms**
- 3. More agri-environmental programs, highlighting nutrient-balanced organic agriculture**

Thank you for your attention  
:) :) :)