

Society and policy makers asking for a “greener farming”
-What does that mean for producers?



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Outline

- Even though agriculture has reduced emissions of nutrients significantly over the past 25 years, agriculture still must improve.
- But the current environmental regulation of agriculture with general fertilizer norms and limits on production cannot alone deal with the challenges, because the costs will be too high for the farmers.
- It is necessary to make regulation more targeted



Greenhouse gases

Agriculture is responsible for about 20 % of Denmark's annual emission of GHG.

Recommendations:

1. new emissions-based regulation of livestock
2. expansion of biogas and removal of wetlands
3. grants for projects and investment in reducing GHG
4. development of GHG accounting at farm level



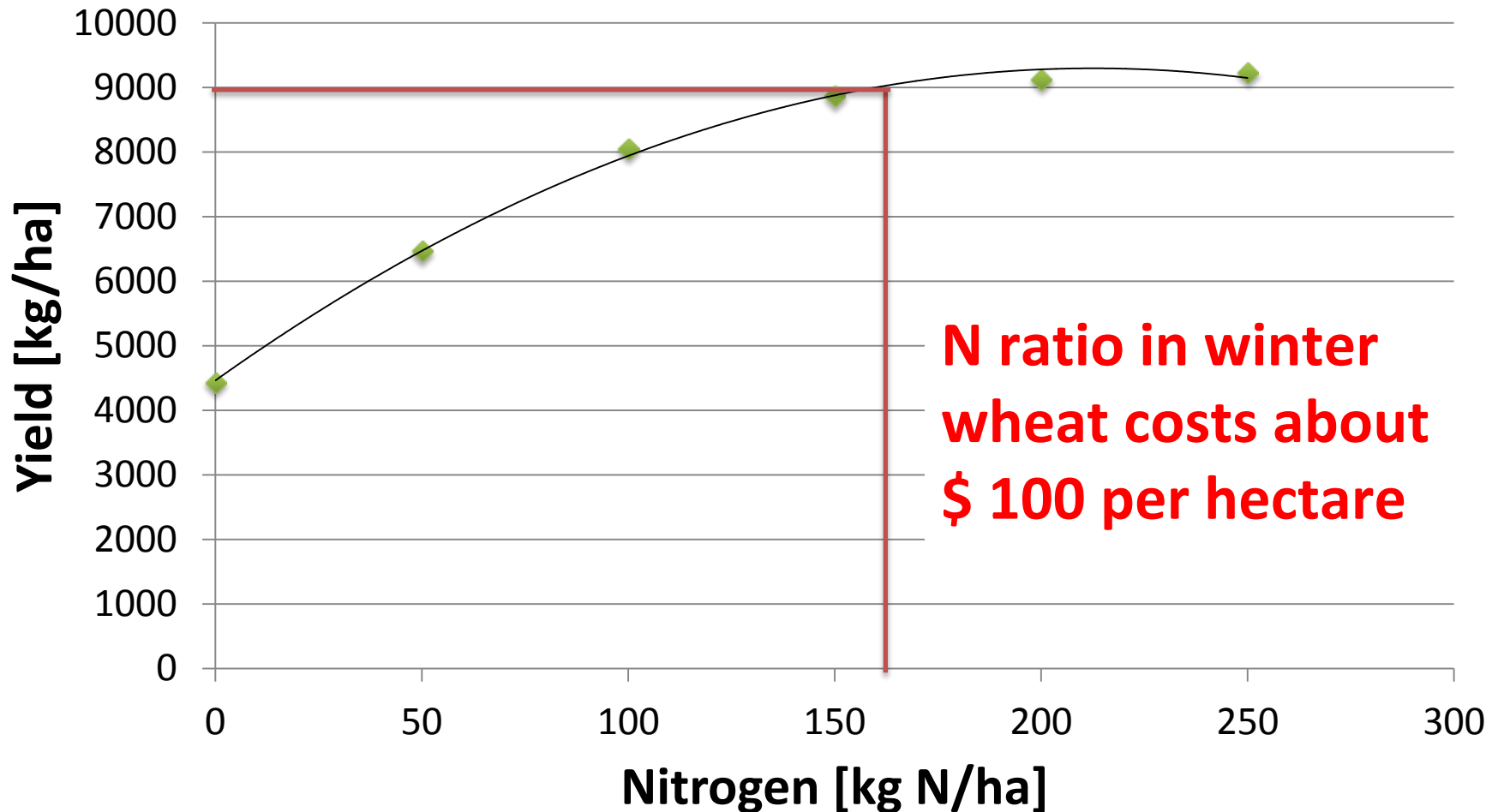
Status and perspectives of nitrogen

1. The farmers must have a fertilizer plan and must make fertilizer accounting and report it to the authorities every year.
2. Application of nitrogen must not exceed the nitrogen quota
 - e.g. 161 kg N per hectare in winter wheat (soil type "JB 6")
3. Standard values for utilization demands on nitrogen in animal manure and other organic manure sources, must be used in the fertilizer accounting



Nitrogen quota

- 15% below the economic optimum



Utilisation demands animal manure

Manure type	Utilisation demand (10/11)	Total fertilizer efficiency of N [%]
Pig slurry	75	75
Cattle slurry	70	70
Mink slurry	70	75
Degased slurry	Variable	Min. 80
Pig slurry treated with acid	75	85
Cattle slurry treated with acid	70	80





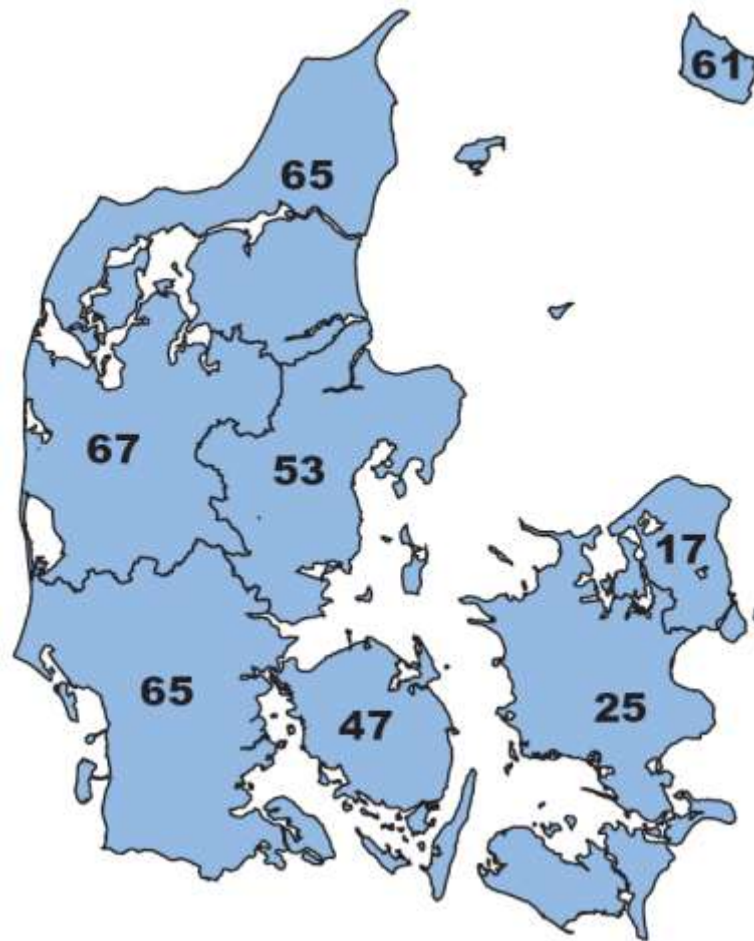


Limitation in manure application

- Application of animal manure must not exceed 1.4/1.7/2.3 animal unit per hectare, depending of animal type (1 animal unit \approx 100 kg total-N)
- Tightening of regulation regarding maximum amounts of animal manure per hectare (animal units per hectare), when setting-up, extending and changing animal production in surrounding areas to vulnerable Nature-2000 areas.

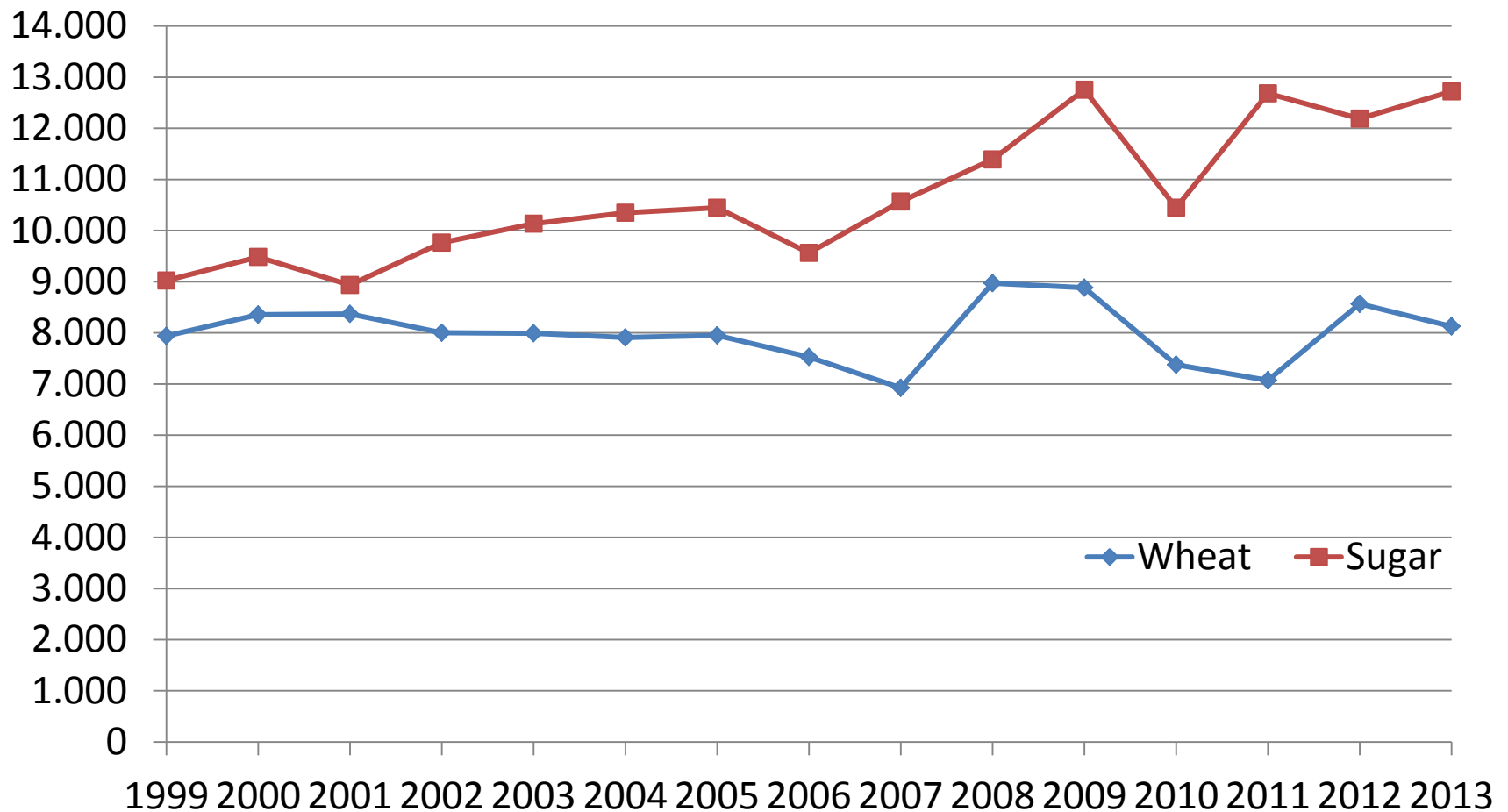


Percentage of farm land used for manure application



Development in yield

- Winter wheat vs. sugarbeet, kg per ha



Cover crops and buffer zones

1. 10 or 14 % of the area should be covered by “catch crops” in the autumn.
 - a) farms with less than 0.8 animal unit per ha: 10 %
 - b) farms with more than 0.8 animal unit per ha: 14 %
2. In 9 meter buffer zones next to streams and lakes larger than 100 m², tillage, fertilization and use of pesticides are not allowed*

**The buffer zones was in 2012 expanded from 2 to 10 meters.
From 2015 they are reduced to 9 meters.*



Limitation in cultivation

- Tillage and cultivation are not allowed in the autumn on fields where the next crop is a spring crop*
 - Soil type JB 5-11: no tillage, cultivation etc. before 1st of November. Soil type JB 1-4: no tillage, cultivation etc. before 1st of February.
- Feed grass must not be renewed in the period 1st of June until 1st of February*

*Legislation where first put into force in year 2011.



Tax on pesticides

- The old one
 - 35 % of the "price label" price on insecticides
 - 25 % of the "price label" price on other pesticides
- The new one (July 2013)
 - 4 components related to health, environmental fate and environmental toxicity
- Additional costs in winter wheat \$ 35 to 90 per ha
- May limit min-till and cause problems with grass weeds

