



“Pesticide regulations in Denmark and how they are being met”

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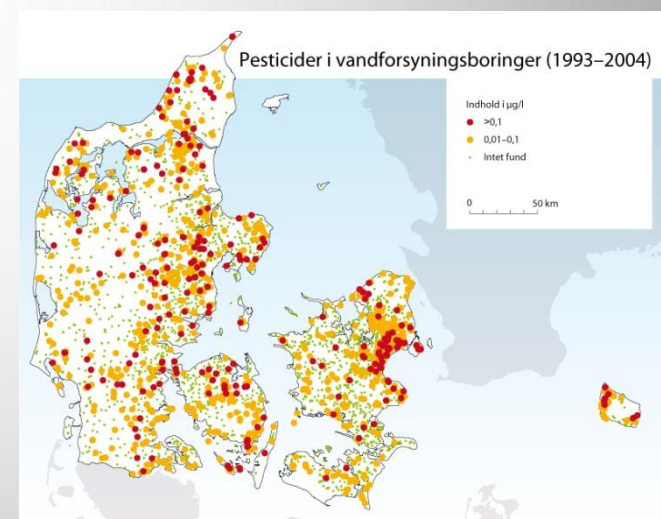
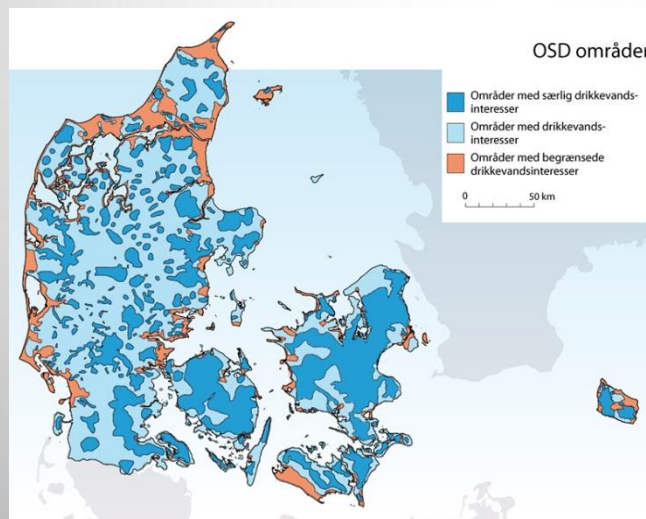
Institute for Geo science and Natural resources



Context years ago (and today)

Dogma;

Danish drinking water should be fed almost directly from the ground and sent out into the taps (water is treated only for iron and manganese). The dogma has background in Danish law.



Source: GEUS



History – pesticide regulation – public areas 1

- 1993 Pesticide use is banned on church yards (legislation).
- 1996 Political hearing in the Danish Parliament about pesticide use in general (inventory of public pesticide use in 1995).
- 1998 The Drinking Water Committee's statement about protecting the groundwater against pollution with pesticides.
- 1998 Voluntary agreement between the Ministry of Environment and the local authorities regarding a total phase out of pesticide use on public areas before 2003.



History – pesticide regulation – public areas 2

- 2003 The pesticide use on public areas was not totally phased out when the volunteer agreement expired.
- 2007 New volunteer agreement regarding a total phase out of pesticide use on public areas – no time limit.
– you are allowed to spray Giant Hogweed.
- 2009 EU adopts Directive (2009/128/EF) on sustainable use of pesticides.
- 2013 Spraying strategy (2013-2015).

History – golf courses

- 2005 Pesticide Agreement for golf courses signed - it is a voluntary agreement. A 70 % reduction at the end of 2008.
- 2009 Two years of negotiations regarding a new voluntary agreement for the golf courses.
- 2011 New political agreement for golf courses - legislation must now be made.
- 2013 National Pesticide Action plan (2013-2015) – *Protect water, nature and human health – pesticide strategy.*
- 2013 Legislation for golf courses to take effect.





Context today

- The Framework Directive on sustainable use of pesticides.
- National Pesticide Action plan.
- Legislative decrees regarding implementation of the above.
- Voluntary agreements concerning pesticide use on amenity areas including public land .
- Legislation regarding pesticide use on golf courses.
- Protection of drinking water.





Denmark's present national action plan

- **Pesticide Action plan 2013-2015**
Political agreement reached in February 2013.
- **Goals in 2015**
A 40% reduction in pesticide load over three years
- i.e. in 2015 compared to the calculated load in 2011.
- **Contents:**
Cross sectorial initiatives.
Specific focus areas.

Cross sectorial initiative

1. Stricter requirements in relation to the approval of pesticides.
This includes promotion of alternative pesticides – subsidy.
2. Enhanced efforts to protect groundwater.
3. Increased food safety.
The level of residues of pesticides in Danish food should be as low as possible.
4. Strengthening control.
5. Investment in research and technology.





Priority areas

- Growers, i.e. farmers, gardeners and their advisers. Anyone who uses pesticides professionally should follow the principles on integrated pest management (IPM principles) by 2014.
- Public areas, i.e. municipalities, regions and government areas should reduce the use of pesticides in accordance with the voluntary agreement in the field.
- Golf courses must reduce consumption and impact of pesticides .
- Garden owners should to a greater extent choose the least harmful pesticides.
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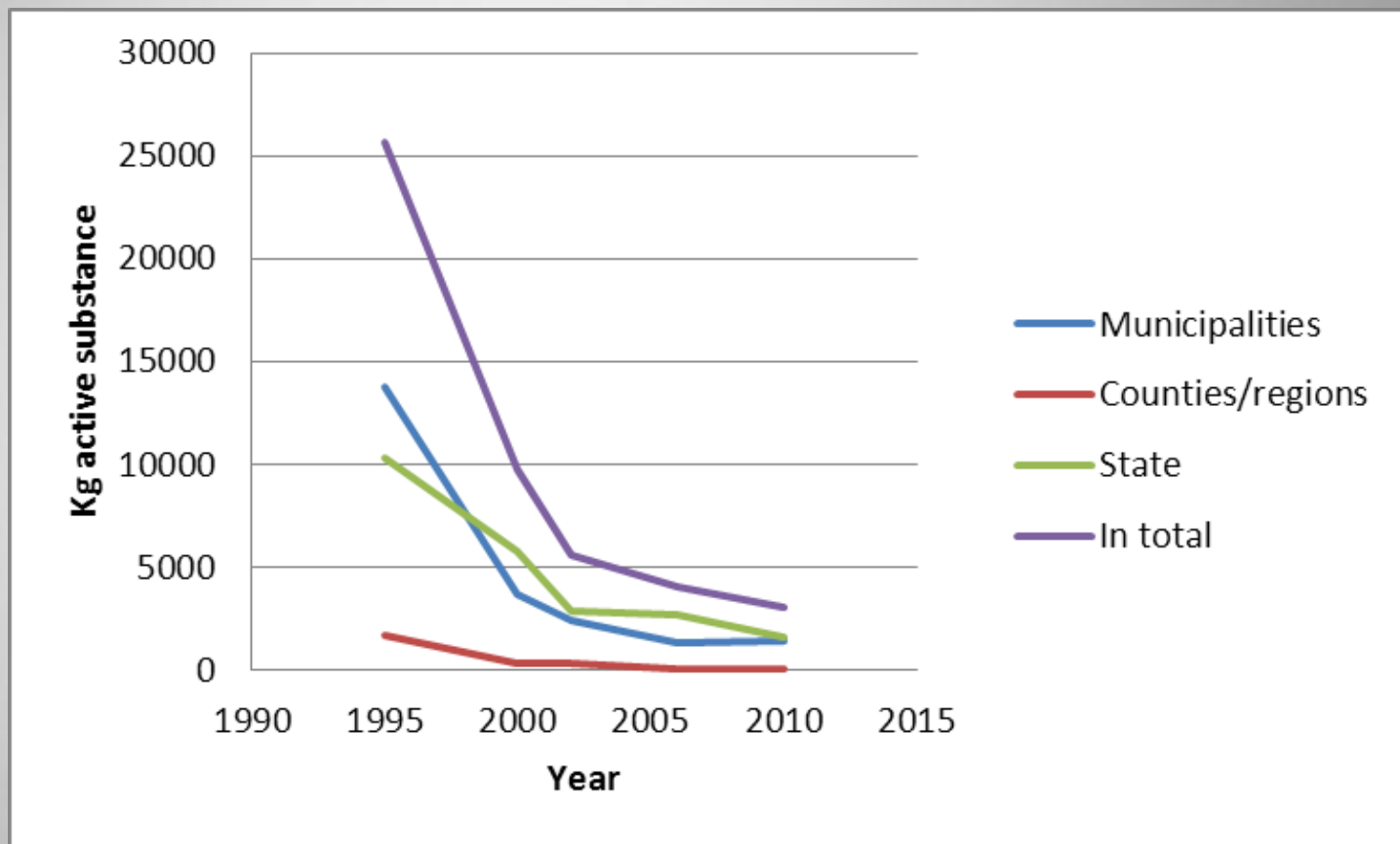
Inventories of the pesticide consumption on public areas (in 1995, 1999/2000, 2002, 2006, 2010 and 2013)

Questionnaire to all municipalities, counties and ministries (state authorities).

- Questions regarding:
 - All areas administered by the authority.
 - Pesticide consumption.
 - Possible barriers for a total phase out.
 - Problem areas due to non-chemical maintenance.
 - Positive and negative experiences.



Total reported pesticide use on public areas



Status for phasing out pesticide use

Municipalities 2010

- Total phase out of pesticides (23 %).
- Only using herbicides to control Giant hogweed (23 %).
- Have not stopped the use of pesticides (54 %).

State 2010

- Rail Net Denmark has reduced pesticide consumption significantly by using a spraying train with photo-optics.





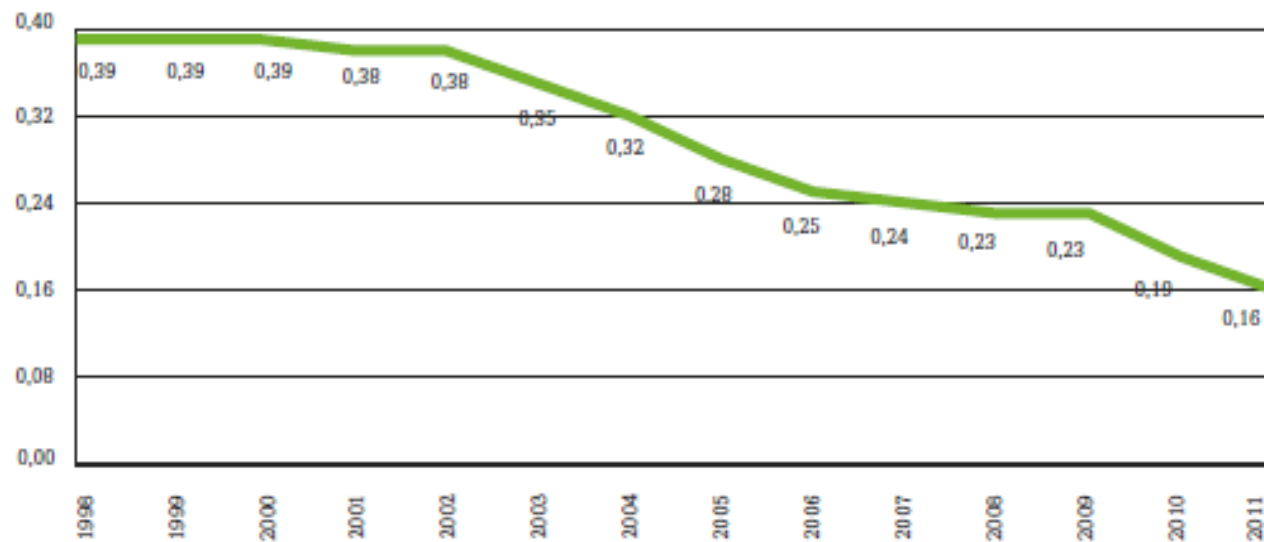
Other initiatives

- A communication initiatives have been launched for municipalities and others in relation to the control of invasive species without the use of pesticides.
- Seminars and experience exchange bus tours have been held.
- The Danish Environmental Protection Agency makes control strategies for various invasive species.



Pesticide use on golf courses 1998 – 2011

Kg active substance / ha



GOLFENS GRØNNE REGNSKAB 2010

7

Measured as: Kg *active substance*.



Golf courses

- New Legislative Decree in early 2013 (spraying records, reporting pesticide consumption and load to The Danish Environmental Protection Agency, load limits).
- Implementation of IT reporting system in early 2014 (in cooperation with DGU, information campaigns, demonstration, testing, etc.).
- Evaluation of the rules in 2014, the load limits.
- Training of greenkeepers.
- Golf clubs are dependent on knowledge of alternative pesticides and alternative methods.



Maximum environmental load / ha

Pesticide type	Course element						Total impact load
	Green	Tee	Fairway	Semirough	Rough	Nature and tracks	
Herbicide	0,04	0,11	0,15	0,08	0,04	0	0,42
Fungicide	1,14	0,15	0	0	0	0	1,29
Insecticide	15,94	15,94	7,95	3,97	3,98	00	47,81
Snail products	0,004	0,004	0,004	0,004	0,04	0	0,02
Growth regulator	0	0	0	0	0	0	0

New legislation measured as environmental load

The Pesticide load provides a measure of the environmental and health impacts caused by pesticide use (sales). And it is calculated using a variety of indicators such as effects on bees, birds, daphnia, fish and human health, etc..





Issues for the future

- IPM on amenity areas.
- New invasive species – strategies.
- Research for alternatives.
- Education.
- Etc.

Thank you for your attention

