



Miljøministeriet  
Miljøstyrelsen

# Sustainable use of pesticides on Danish golf courses



## The Danish Environmental Protection Agency

**450 employees**

**9 section of which one is *Pesticides and Gene technology***

**50 employees - EU and national risk assessment and  
authorisation of pesticides and biocides**

**7-8 employees - sustainable use of pesticides and reduction in use  
of pesticides**



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**Political requirement:**

**Need for a new pesticide tax  
and corresponding indicator**

The Danish EPA was asked to:



Develop a **differentiated tax and indicator** depending on the properties of each plant protection product/active substance with respect to human health and the environment



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**Pesticide tax and indicator**

**Based on data from the risk assessment**

**Human health**

Based on formulated products: R-phases and formulation type– score based on severity of effects and exposure

**Environmental fate**

Based on active substance properties - degradation in soil, potential for bioaccumulation and transport to groundwater – relative load factor

**Environmental toxicity**

Based on active substance properties for acute and chronic toxicity – relative load factor, modified for limited exposure



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# National Action Plans in Denmark

**1<sup>st</sup> Pesticide Action Plan in 1986**

**2<sup>nd</sup> Pesticide Action Plan in 2000**

**3<sup>rd</sup> Pesticide Action Plan: 2004-2009**

**4<sup>th</sup> Pesticide Action Plan: 2010-2015**

**5<sup>th</sup> Pesticide Action Plan: 2013-2015**

## **Main purpose:**

Sustainable use of pesticides by reduction in use of pesticides and reduction in pesticide load on the environment and human health -> Measured by **one main indicator**  
Called the **pesticide load indicator**



## **Uses of the new indicator and the tax**

- **Establishing targets in National Pesticide Action Plan to reduce the pesticide load (PLI) by 40 pct. by the end of 2015 compared with 2011.**
- **Regulation on golf courses – maximum pesticide load**
- **IPM implementation – extension service**
- **Size of fines for illegal import and use of pesticides**

## Regulation of golf courses

### **Requirement of Dir. 2009/128/EC – art. 12** **Reduction of pesticide use or risks in specific areas**

Member States shall ... ensure that the use of pesticides is **minimised or prohibited** in certain specific areas. Appropriate risk management measures shall be taken and the use of low-risk plant protection products as defined in Regulation (EC) No 1107/2009 and biological control measures shall be considered in the first place. The specific areas in question are:

- a) areas used by the general public or by vulnerable groups as defined in Article 3 of Regulation (EC) No 1107/2009, such as **public parks and gardens, sports and recreation grounds**, school grounds and children's playgrounds and in the close vicinity of healthcare facilities.



## Danish regulation of pesticide load on golf courses

**First national regulation: No. 245 of 28 February 2013**  
**came into force by 15. March 2013.**

**(latest regulation No. 127 af 6 February 2015)**

### **Main requirement in the regulation:**

When using plant protection products on golf courses, the sum of the plant protection product loads for all six of the course elements (greens, tee, fairway, semi-rough, rough, natural areas) shall not exceed the maximum load limit, which are stated for each of the product groups: herbicides, fungicides, insecticides, molluscicides and growth regulation agents.



## **Rules and regulations in Denmark**

- 1. Pesticide tax**
- 2. Maximum pesticide load on golf courses**
- 3. Spraying journal – data to be submitted in Green-data**
- 4. Regulation on filling and washing pesticide equipment**
- 5. Ten day education – spraying certificate**
- 6. Inspection of pesticide application equipment.**

## **Further initiatives in Denmark**

- 1. Further education of greenkeepers**
- 2. Funding of development of education materials for additional education of greenkeepers**
- 3. Funding for development projects for new alternative pesticides to be authorised**
- 4. Research projects**

## Regulation of pesticide load on golf courses (2015 maximum loads)

Middelgruppe	Green	Tee- sted	Fair- Way	Semi- Rough	Rough	Nature and paths	Maximum load
Herbicides	0,04	0,09	0,22	0,04	0,02	0	0,41
Fungicides	1,14	0,11	0	0	0	0	1,25
Insecticides	16,40	8,20	20,50	2,46	0	0	47,55



**Further more ...**

**Very well working cooperation between the Danish  
EPA and Danish Golf Association**

**DGA has developed a yearly special award for  
initiatives taken for the environmental protection  
on golf courses**



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**Thank you for the attention !**

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