



# Monitoring of velvetleaf (*Abutilon theophrasti* Med.) on arable land in Saxony, Germany, in the years 2000-2004

Ewa Meinschmidt

Sächsische Landesanstalt für Landwirtschaft, Fachbereich Pflanzliche Erzeugung, Referat Pflanzenschutz, Ewa.Meinschmidt@mul.sachsen.de

### Aim

> In the year 2000, *A. theophrasti* was registered as a weed on arable land for the first time in the Free State of Saxony by the official Plant Protection Service.

> In order to determine the occurrence of *A. theophrasti* and the means of its introduction, consultations of regional agricultural authorities were carried out on the following subjects in the years 2000-2004

### Methods

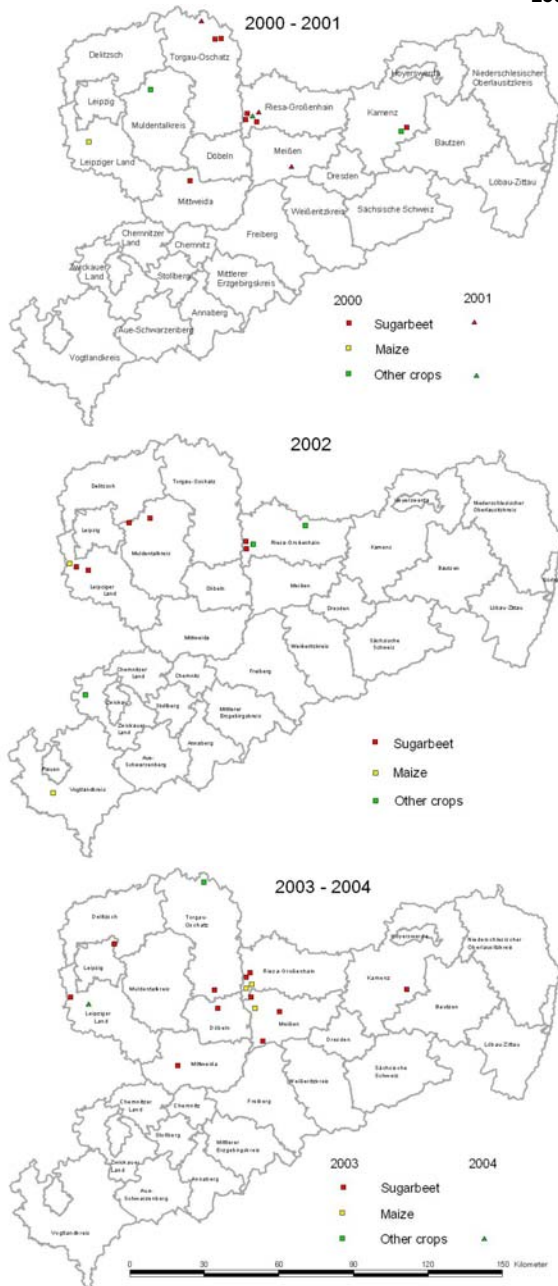
> Size of infested field (ha), soil type, valuation index of field and altitude (m above sea level)

> Infestation level with *A. theophrasti* estimated as weed coverage (%) and its distribution within the field

> Cultivated crop plant, crop rotation, catch crops, use of fertilizers



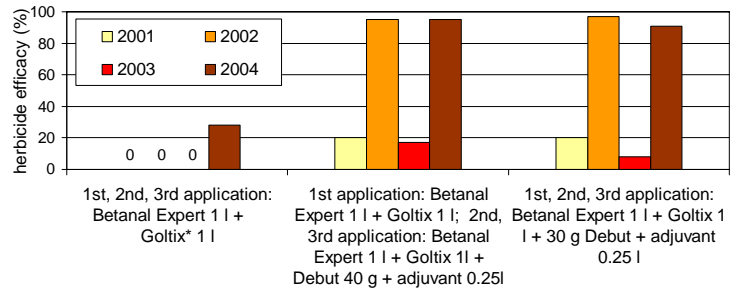
### Location of sites of *A. theophrasti*



Meter about sea level: 74-450  
 Valuation index of field: 30-86  
 Soil type: sandy loam, loam, clay soil

	2000	2001	2002	2003	2004
<b>Number of sites</b>	10	4	11	15	1
<b>Size of field in ha</b>					
Sugarbeet	267	57	153	319	-
Maize	7	-	70	46	-
Cereals	8	20	12	-	3
Potatoes	-	-	50	-	-
Winter rape	-	-	37	-	-
Witloof chicory	-	-	-	35	-
<b>Total</b>	<b>282</b>	<b>77</b>	<b>322</b>	<b>400</b>	<b>3</b>

### Chemical control against *A. theophrasti* in sugar beet, field trials, Dresden, 2001-2004



**Herbicides**  
 Betanal Expert: desmedipham + ethofumesat + phenmedipham  
 \* Goltix 700 SC: metamitron  
 Debut: triflusalifuron

**Active ingredient**

> 2001 and 2003, chemical control of *A. theophrasti* in sugar beet was insufficient  
 > Chemical control depends on the weather conditions more than on the density of *A. theophrasti*

### Conclusions

- > On Saxon conditions the optimum environment for *A. theophrasti* is in sugar beet
- > Since 2000, *A. theophrasti* has been found every year, especially in root crops
- > Biological characteristics predetermine it to become a late summer annual weed
- > Seeds of *A. theophrasti* are introduced together with seeds of catch crops
- > Fertilizers such as liquid and solid manure and poultry dung are other possible pathways
- > Imported animal feed could be the source
- > The spread of *A. theophrasti* on arable land cannot be ruled out in the future because of its biology, an insufficient chemical control in sugar beet and means of introduction

> 2000-2004 *A. theophrasti* was found on an area of 1084 ha of arable land  
 > Only 5 % of this area was directly infested by *A. theophrasti*. The density varied from one *A. theophrasti* plant to weed coverage of 50 %