

Weed diversity on arable land in the Czech Republic

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Czech Republic

↔ 452 km

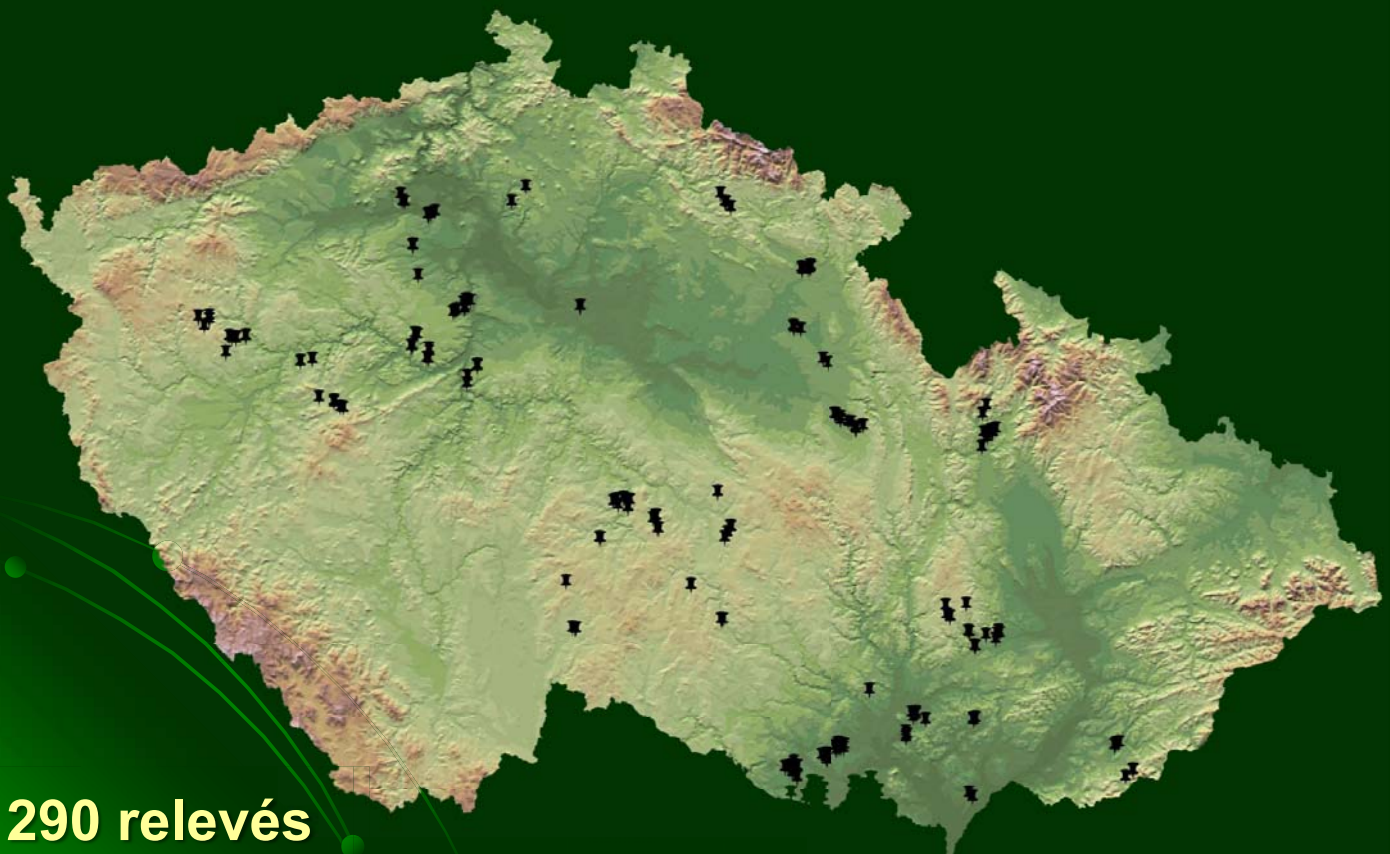
↕ 276 km



Weed survey

- **Research period:** 2006–2008 (2009 - orchards)
- **Farming systems:**
 - **conventional** (common chemical weed control)
 - 27 farms
 - **organic** (Council Regulation (EEC) No 2092/91)
 - 35 farms
- **Crops:**
 - winter and spring cereals
 - root crops
- 1 relevé – 100 m², field center

Localisation of relevés



290 relevés
conventional: 158, organic: 132

- Braun-Blanquet cover-abundance scale (Braun-Blanquet, 1964; adapt. Barkman *et al.*, 1964)

Degree	Cover
<i>r</i>	1-3 individuals
+	less than 1%
1	1-5 %
2m	5%
2a	5-15%
2b	15-25%
3	25-50 %
4	50-75 %
5	75-100 %

Describing of weed communities

α-diversity

- *species richness*
- *Shannon-Wiener diversity index*

$$H = -\sum p_i \log p_i ; p_i = 1/S$$

S...number of species in 1 relevé)

- *Evenness*

$$E = H / H_{max} ; H_{max} = \ln S$$

Describing of weed communities

β -diversity

- *Sørensen dissimilarity*

$$PD=1-S ; S=2C/A+B$$

A...number of species in relevé A

B...number of species in relevé B

C...number of species occurring in relevé A and B

γ -diversity

Influence of environmental factors

- multivariate analysis

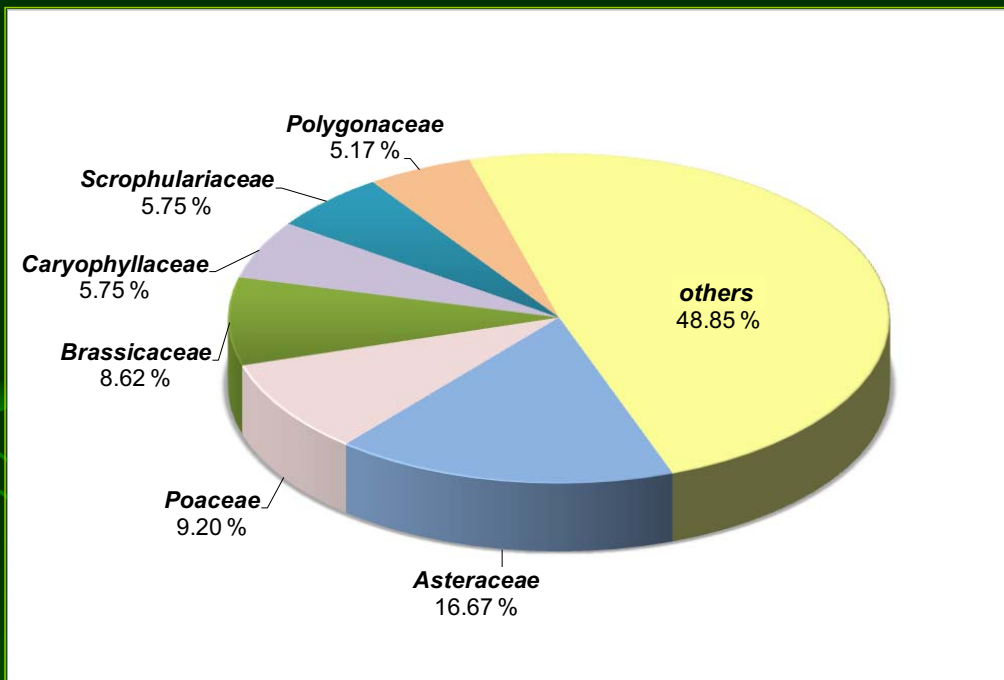
γ -diversity

- 172 weed species

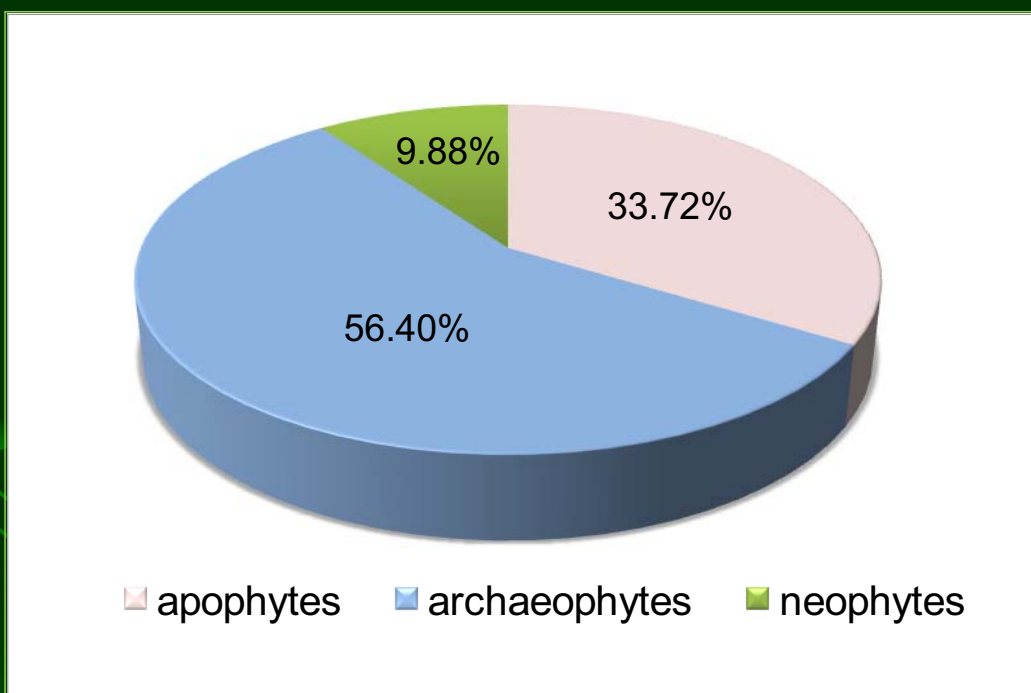
	Total number of species in	both farming types	Type of farming	
			conventional	organic
Crop	winter cereals	163	84	148
	spring cereals	160	101	149
	root crops	147	92	135
Altitude	250 m	123	73	114
	250-350 m	163	88	155
	> 350 m	155	95	137

γ -diversity

- 32 families

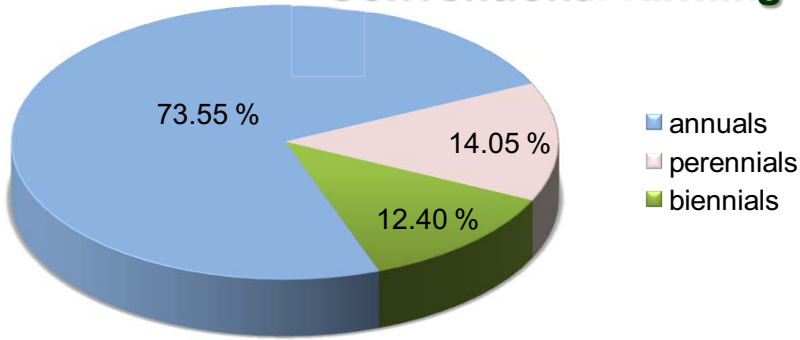


γ -diversity

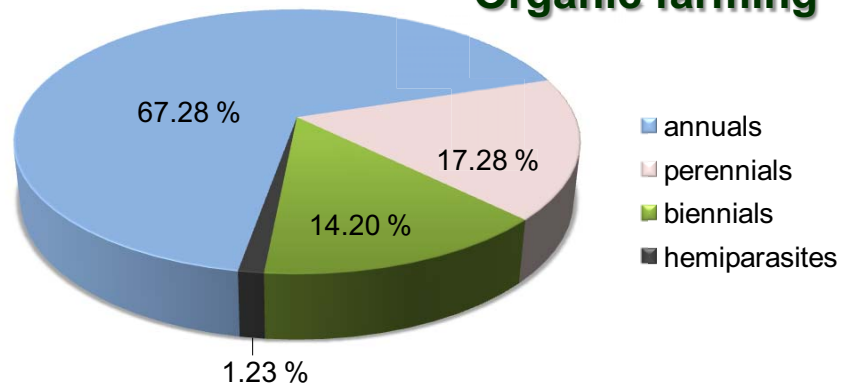


γ-diversity

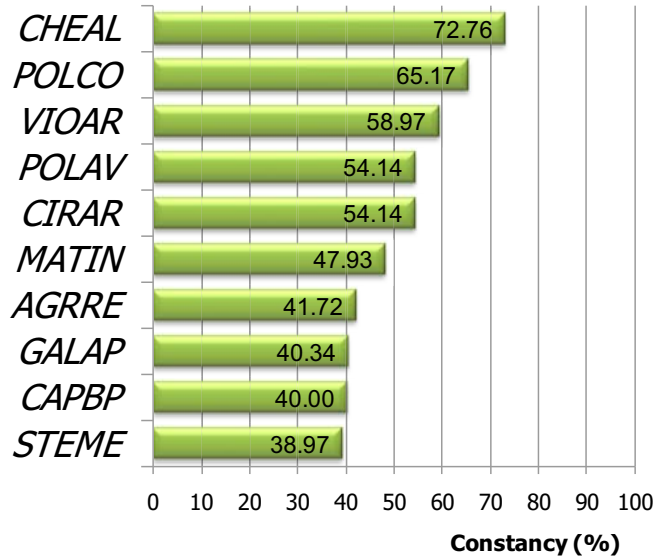
Conventional farming



Organic farming

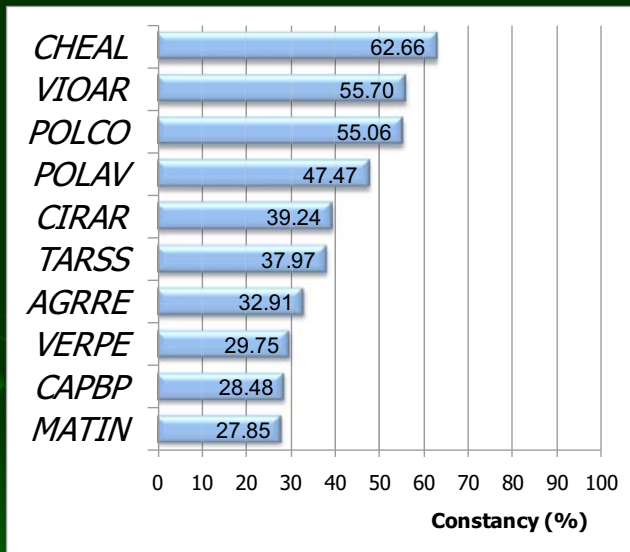


γ-diversity

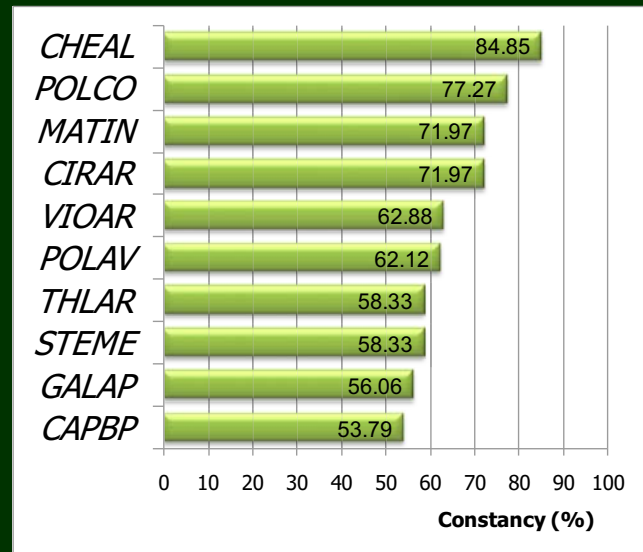


γ -diversity – type of farming

Conventional farming

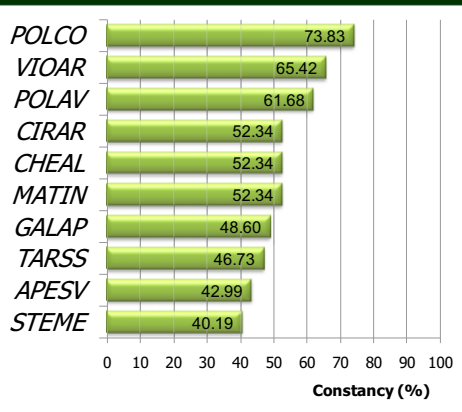


Organic farming

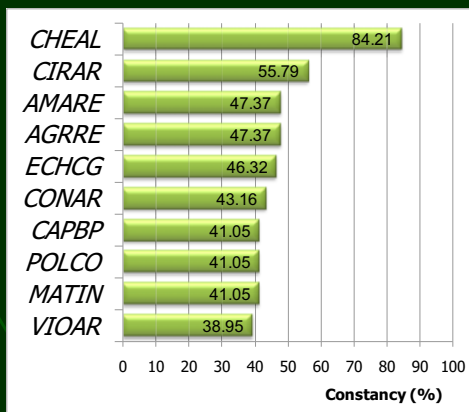


γ -diversity - crops

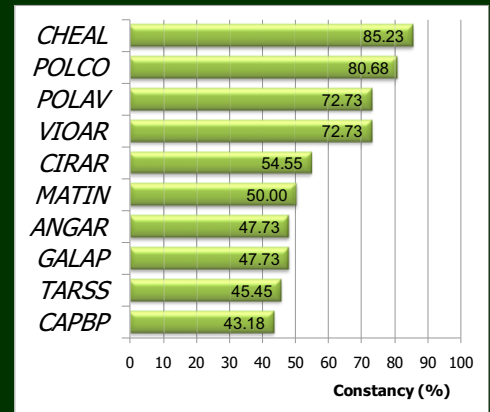
winter cereals



root crops

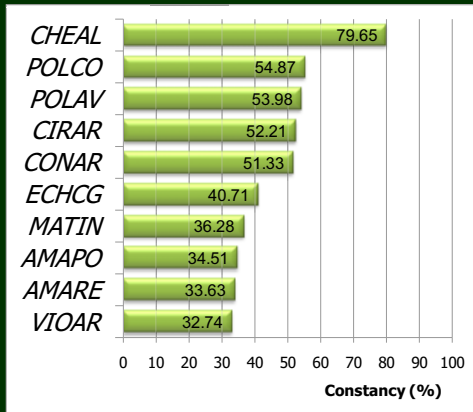


spring cereals

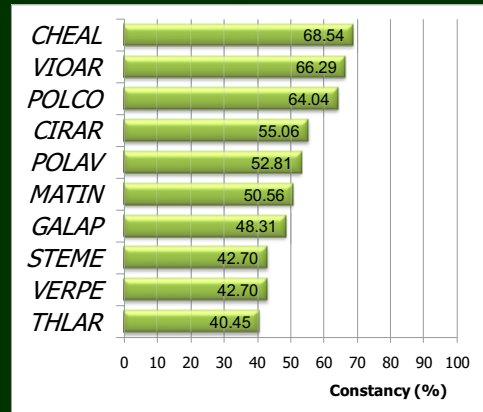


γ -diversity - altitude

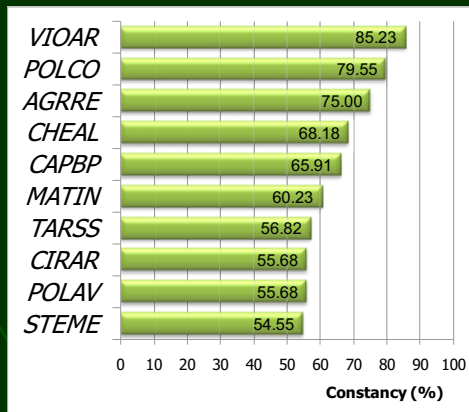
< 250 m



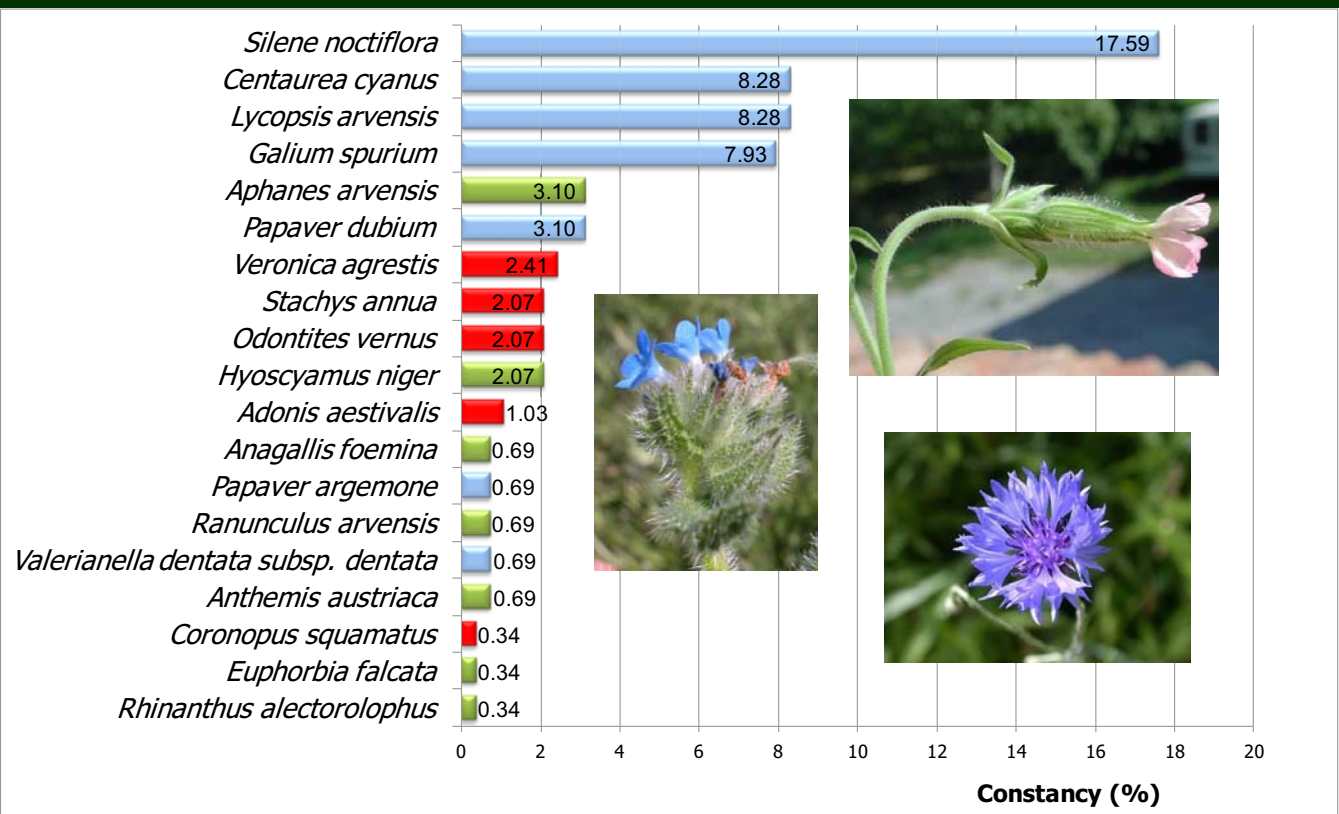
250-350 m



> 350 m



γ -diversity – rare and endangered species



■ EN
 ■ VU
 ■ LR

***Thank you for paying
attention***

