APPENDIX

INTRODCUTION

- **Introduction of Robinia pseduoacacia L. to the world**
- **Distribution in European countries**
- **General description of the Robinia pseudoacaica L.**
- **Varieties of Robinia pseduoacacia L.**
- **Seed, seed coat properties, dormancy and seed pre-treatments**
- **Site requirements**
- **Ability of black locust to fix nitrogen and its effect on soil**
- **Pioneer tree species in forest succession**
- **Reproduction by seed, root suckers and stump shoots**
- **Different management approaches for black locust**
- **Invasiveness of black locust in Europe and Asia**
- **Impact on plant diversity**
- **Multi purposes of black locust**
- **Important role on different countries; Hungary, Romania, China, Turkey etc.**
- **Pests, diseases and abiotic damage agents**

Focus on chosen sources from the literature

RESULTS

CONCLUSIONS

REFERENCES

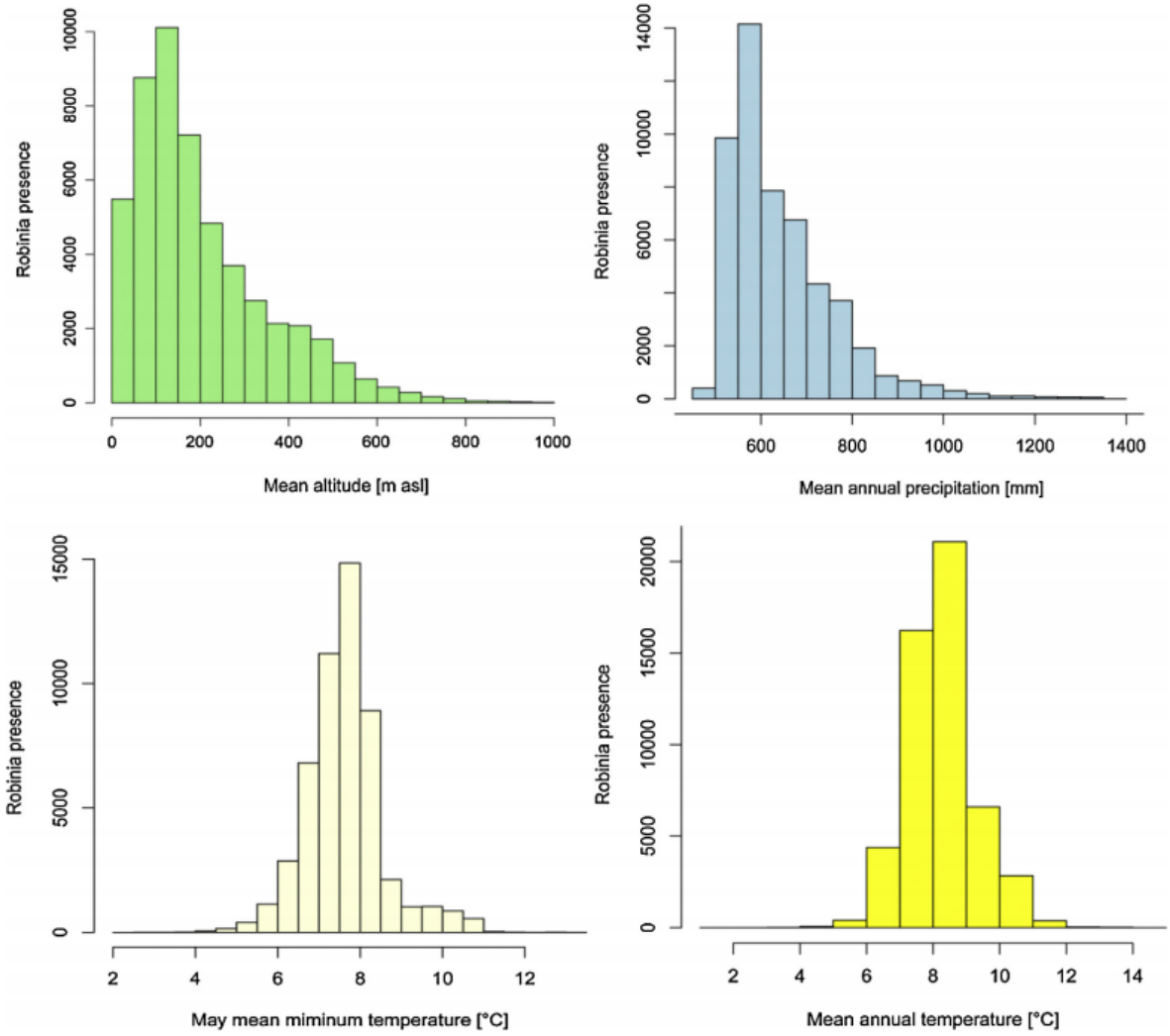

Figure 1. Proportion of Robinia pseduoacacia L. along altitudinal, rainfall and temperature gradients (Vítková et al., 2017)

Number	Type	Syntaxon	Soil type	Bedrock	Altitude	Slope	Aspect	Annual precipitation	Annual temperature
1	Species-rich nitrophilous	*Chelidonio-Robinietum*	Eutric leptosol	Spilite	310	30	203	541	7.9
2	Species-rich nitrophilous	*Chelidonio-Robinietum*	Eutric leptosol	Basalt	360	35	158	539	7.5
3	Species-rich nitrophilous	*Chelidonio-Robinietum*	Rendzic leptosol	Diabase	285	30	158	495	9.0
4	Species-rich nitrophilous	*Chelidonio-Robinietum*	Rendzic leptosol	Limestone	315	30	180	511	8.4
5	Species-rich nitrophilous	*Chelidonio-Robinietum*	Rendzic leptosol	Olivine basalt	270	10	135	532	7.8
6	Species-rich nitrophilous	*Chelidonio-Robinietum*	Calcic leptosol	Calcareous sandstone	240	40	180	530	8.3
7	Species-rich nitrophilous	*Chelidonio-Robinietum*	Cambic leptosol	Paleozoic schist	220	35	158	496	9.1
8	Species-rich nitrophilous	*Chelidonio-Robinietum*	Arenosol	Quarzite sandstone	210	30	113	513	8.2
9	Species-rich nitrophilous	*Chelidonio-Robinietum*	Lithic cambisol	Calcareous sandstone	240	30	203	535	8.2
10	Species-rich nitrophilous	*Chelidonio-Robinietum*	Dystric cambisol	Quarcite	240	20	158	494	9.0
11	Species-rich nitrophilous	*Chelidonio-Robinietum*	Dystric cambisol	Quartz diorite	280	25	158	566	8.5
12	Species-rich nitrophilous	*Chelidonio-Robinietum*	Fluvisol	Carbon-Permian sandstone	330	30	225	577	7.6
13	Species-rich nitrophilous	*Chelidonio-Robinietum*	Fluvisol	Calcareous sandstone	230	20	180	508	8.4
14	Species-poor grassy	*Arrhenathero-Robinietum*	Arenosol	Eolian sands	150	0	–	498	8.6
15	Species-poor grassy	*Arrhenathero-Robinietum*	Arenosol	Eolian sands	150	0	–	498	8.6
16	Species-poor grassy	*Arrhenathero-Robinietum*	Arenosol	Eolian sands	190	0	–	507	8.3
17	Open and mesic	*Poo-Robinietum*	Typic leptosol	Proterozoic schist	290	45	113	573	8.0
18	Open and mesic	*Poo-Robinietum*	Typic leptosol	Amphibole schist	200	35	158	524	8.9
19	Open and mesic	*Poo-Robinietum*	Cambic leptosol	proterozoic schist	210	50	270	498	8.4
20	Open and mesic	*Poo-Robinietum*	Cambic leptosol	Proterozoic schist	280	35	270	511	8.8
21	Open and mesic	*Poo-Robinietum*	Cambic leptosol	Amphibolite	300	40	135	625	7.7
22	Open and mesic	*Poo-Robinietum*	Lithic cambisol	proterozoic Schist	240	45	338	520	8.8
23	Open and mesic	*Poo-Robinietum*	Lithic cambisol	Phylite	350	35	225	586	7.8
24	Open and mesic	*Poo-Robinietum*	Lithic cambisol	Syenodiorite	310	30	203	574	8.5
25	Open and mesic	*Poo-Robinietum*	Lithic cambisol	Amphibole schist	300	40	158	555	8.4
26	Open and mesic	*Poo-Robinietum*	Lithic cambisol	Amphibole schist	350	35	113	604	8.1
27	Open and mesic	*Poo-Robinietum*	Dystric cambisol	Lydite	250	30	113	482	8.9
28	Open and mesic	*Poo-Robinietum*	Arenic cambisol	Proterozoic schist	290	35	203	527	8.3
29	Open and mesic	*Poo-Robinietum*	Haplic luvisol	Basalt	380	20	203	580	6.6
30	Dwarf and shrubby	*Melico-Robinietum*	Lithic leptosol	granodiorite	330	45	90	574	8.5
31	Dwarf and shrubby	*Melico-Robinietum*	Lithic leptosol	Spilite	260	30	203	497	8.5
32	Dwarf and shrubby	*Melico-Robinietum*	Lithic cambisol	Quartz diorite	300	30	158	566	8.5
33	Dwarf and shrubby	*Melico-Robinietum*	Chernozem	Olivine nephelinite	260	25	203	557	7.5

Table 1: Species composition, soil type and bedrock characteristics of black locust stands in Czech Republic (Vítková et al, 2015)

Zone	0–2 m (%)	2–4 m (%)	4–6 m (%)	6–8 m (%)	8–10 m (%)	Average Distance (m)
Meadow	43.99	32.37	14.86	3.00	0.33	1.89
Farmland	27.45	19.60	9.78	0.91	0.07	1.16
Dirt road	41.96	37.81	26.07	6.38	0.58	2.26
Forest	40.23	25.42	7.79	1.14	0.002	1.49

Table 2: Average distance proportions for the spreading of black locust in different type of areas (Carl et al., 2019).

	BL_Y	BL_A	BL_M	Native	*p*
Vascular plants					
Total number of species	48	60	45	93	–
Mean number of species	13.7 ± 2.8^{a}	15.5 ± 4.6^{a}	14.5 ± 5.7^{a}	21.5 ± 6.4^{b}	0.034
Species heterogeneity	34.3 ± 2.8^{a}	44.5 ± 4.6^{b}	30.4 ± 5.7^{a}	67.4 ± 6.4^{c}	0.0001
% Nitrophylous species	30.5 ± 10.6^{a}	38.9 ± 8.7^{a}	41.3 ± 8.8^{a}	10.7 ± 7.6^{b}	0.0001
Relative abundance of nitrophylous species	57.8 ± 35^{ab}	81 ± 21^{a}	48 ± 25^{b}	3.8 ± 7.3^{d}	0.0001

Table 3: Differences between young (BL_Y), intermediate (BL_A), mature (BL_M) black locust stands and the native forests stands (Benesperi et al., 2012).

	Pb			Cd		
Site	Unwashed	Washed	T-test	Unwashed	Washed	T-test
Industry	176.88 ± 12.2	62.42 ± 3.45	***	3.39 ± 0.14	1.22 ± 0.10	***
Roadside	74.46 ± 9.1	33.65 ± 3.30	***	1.34 ± 0.08	0.65 ± 0.08	***
Urban	48.96 ± 7.8	27.02 ± 3.01	***	1.12 ± 0.11	0.61 ± 0.08	***
Suburban	26.67 ± 6.2	21.04 ± 2.42	**	0.77 ± 0.07	0.58 ± 0.05	**
Rural	15.98 ± 1.9	14.89 ± 2.28	*	0.47 ± 0.05	0.44 ± 0.03	*
F- test	***	***		***	***	

	Zn			Cu		
Site	Unwashed	Washed	T-test	Unwashed	Washed	T-test
Industry	242 ± 11.10	98 ± 3.81	***	29.12 ± 2.54	14.04 ± 1.47	***
Roadside	80 ± 9.00	40 ± 2.76	***	22.98 ± 2.32	12.21 ± 1.32	***
Urban	67 ± 8.06	36 ± 2.75	***	18.56 ± 2.22	10.48 ± 1.14	***
Suburban	35 ± 5.08	26 ± 2.36	**	12.96 ± 1.30	8.96 ± 1.01	**
Rural	21 ± 1.66	19 ± 1.23	*	8 ± 1.11	7.32 ± 0.86	*
F- test	***	***		***	***	

Table 4: Mean Pb, Cd, Zn and Cu concentrations in the leaves of Robinia pseudoacacia L. (Aksoy et al., 2000).