

## Příloha1: Výsledky ekotoxikologických testů *Spirodela polyrhiza*

Elektronické nedopalky 30.9.2022

CONCENTRATION						
	control	0,001	0,01	0,1	1	10
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	27,112	5,663	27,347	14,168	16,174	18,180
2	24,308	20,549	16,435	12,698	23,708	19,441
3	21,556	27,292	22,974	9,326	36,224	10,669
4	21,854	17,491	17,735	16,938	19,108	17,866
5	2,022	15,700	16,881	12,465	4,495	21,745
Mean	19,370	17,339	20,274	13,119	19,942	17,580
STDEV	9,953	7,880	4,744	2,769	11,541	4,154
CV%	51,38	45,45	23,40	21,11	57,87	23,63
% inhibition		10,49	-4,67	32,27	-2,95	9,24

Klasické nedopalky 30.9.2022

CONCENTRATION						
	control	0,001	0,01	0,1	1	10
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	16,822	16,674	16,456	16,702	22,399	14,112
2	13,510	12,761	21,308	12,287	27,820	15,463
3	17,227	19,468	20,626	12,740	11,007	14,095
4	23,252	12,073	17,373	19,227	17,797	30,680
5	17,735	21,777	20,994	24,530	15,382	13,873
Mean	17,709	16,551	19,351	17,097	18,881	17,645
STDEV	3,513	4,191	2,261	5,051	6,475	7,314
CV%	19,84	25,32	11,68	29,54	34,29	41,45
% inhibition		6,54	-9,27	3,46	-6,62	0,36

## Elektronické nedopalky 3.10.2022

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	26,319	21,464	16,502	13,118	25,910	18,790
2	24,837	19,255	21,598	22,729	19,486	13,493
3	28,671	18,726	24,993	11,744	23,280	17,065
4	15,384	14,696	19,856	13,840	13,660	16,980
5	17,587	15,003	22,946	16,019	15,898	12,471
Mean	22,560	17,829	21,179	15,490	19,647	15,760
STDEV	5,764	2,909	3,220	4,332	5,058	2,661
CV%	25,55	16,32	15,20	27,97	25,75	16,89
% inhibition		20,97	6,12	31,34	12,91	30,14

## Klasické nedopalky 3.10.2022

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	15,425	25,806	21,866	20,226	25,659	18,043
2	18,504	17,979	32,733	14,601	22,118	2,595
3	29,356	21,357	26,782	18,308	19,515	14,261
4	19,065	14,775	17,607	27,052	23,470	15,276
5	17,148	14,953	23,731	22,057	19,586	12,944
Mean	19,900	18,974	24,544	20,449	22,070	12,624
STDEV	5,469	4,668	5,657	4,610	2,624	5,911
CV%	27,49	24,60	23,05	22,55	11,89	46,82
% inhibition		4,65	-23,34	-2,76	-10,90	36,56

Elektronické nedopalky 28.10.2022

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	23,614	32,419	15,999	28,399	24,547	12,531
2	20,417	19,548	21,376	20,532	31,690	9,052
3	23,985	18,750	22,950	13,155	19,162	11,239
4	20,155	24,135	23,999	22,313	13,019	16,390
5	5,108	18,954	13,942	13,918	13,862	19,249
Mean	18,656	22,761	19,653	19,663	20,456	13,692
STDEV	7,776	5,832	4,435	6,314	7,801	4,094
CV%	41,68	25,62	22,57	32,11	38,13	29,90
% inhibition		-22,01	-5,35	-5,40	-9,65	26,61

Klasické nedopalky 28.10.2022

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	19,718	21,805	32,500	14,741	18,332	14,547
2	18,600	3,830	18,853	14,352	29,032	11,154
3	24,221	25,950	22,430	9,264	11,273	10,572
4	30,125	3,354	19,699	23,317	14,549	3,925
5	28,146	4,509	27,918	6,307	3,790	9,638
Mean	24,162	11,890	24,280	13,596	15,395	9,967
STDEV	5,053	11,049	5,802	6,486	9,314	3,852
CV%	20,91	92,93	23,90	47,70	60,50	38,65
% inhibition		50,79	-0,49	43,73	36,28	58,75

## Elektronické nedopalky 10.11.2022

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	17,387	18,725	14,920	10,820	20,587	18,043
2	12,487	20,108	14,153	21,071	14,727	9,247
3	15,020	13,770	17,352	13,331	7,809	10,802
4	8,566	8,178	21,887	8,278	16,047	5,835
5	14,010	24,478	16,678	18,178	13,157	10,167
Mean	13,494	17,052	16,998	14,336	14,465	10,819
STDEV	3,281	6,261	3,023	5,249	4,639	4,470
CV%	24,31	36,72	17,78	36,61	32,07	41,32
% inhibition		-26,37	-25,97	-6,24	-7,20	19,83

## Klasické nedopalky 10.11.2022

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	15,963	18,714	15,623	17,143	15,716	16,842
2	11,468	25,229	17,018	15,973	11,766	18,669
3	15,755	27,411	23,844	22,972	11,224	17,557
4	26,178	18,809	11,694	15,240	19,137	8,391
5	19,782	24,231	17,374	17,072	13,120	13,660
Mean	17,829	22,879	17,111	17,680	14,193	15,024
STDEV	5,517	3,931	4,387	3,063	3,264	4,149
CV%	30,95	17,18	25,64	17,33	23,00	27,62
% inhibition		-28,32	4,03	0,84	20,40	15,73

## Elektronické nedopalky 17.11.

Várka 1

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	21,167	17,343	10,336	10,795	8,900	1,623
2	19,227	23,225	15,360	12,020	7,175	14,417
3	32,012	14,422	16,514	8,038	11,217	7,288
4	32,332	21,280	17,905	8,503	11,347	9,980
5	26,317	20,961	17,331	20,822	10,060	9,209
Mean	26,211	19,446	15,489	12,036	9,740	8,503
STDEV	6,028	3,521	3,035	5,177	1,743	4,649
CV%	23,00	18,11	19,60	43,01	17,89	54,68
% inhibition		25,81	40,91	54,08	62,84	67,56

Várka 2

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	22,190	17,726	16,690	4,485	10,441	7,602
2	25,669	13,330	18,505	16,283	6,839	8,698
3	30,487	15,812	16,114	12,271	16,069	14,190
4	25,351	16,529	12,896	22,446	16,273	15,443
5	24,461	12,936	19,369	16,024	8,486	5,360
Mean	25,632	15,267	16,715	14,302	11,622	10,259
STDEV	3,036	2,069	2,510	6,590	4,345	4,354
CV%	11,84	13,55	15,01	46,08	37,39	42,44
% inhibition		40,44	34,79	44,20	54,66	59,98

Klasické nedopalky 17.11.

Várka 1

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	17,858	15,106	17,410	14,265	7,668	6,545
2	16,235	22,019	15,615	13,199	7,199	9,243
3	13,834	16,405	24,772	10,079	10,383	5,074
4	23,643	16,115	15,038	14,274	8,223	5,855
5	15,905	13,786	11,710	10,475	4,746	2,533
Mean	17,495	16,686	16,909	12,458	7,644	5,850
STDEV	3,723	3,152	4,855	2,044	2,027	2,429
CV%	21,28	18,89	28,71	16,40	26,52	41,52
% inhibition		4,62	3,35	28,79	56,31	66,56

Várka 2

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	21,266	26,901	18,795	29,880	6,764	5,176
2	13,968	19,155	15,427	14,569	4,281	6,362
3	21,406	25,496	14,403	15,662	8,983	12,414
4	15,475	27,723	21,722	5,382	17,204	15,558
5	26,244	14,283	19,164	10,761	13,695	6,822
Mean	19,672	22,712	17,902	15,251	10,185	9,266
STDEV	4,972	5,790	2,973	9,113	5,234	4,490
CV%	25,28	25,49	16,61	59,76	51,39	48,45
% inhibition		-15,45	9,00	22,47	48,22	52,90

## Várka 1

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	15,231	0,308	10,560	3,403	1,415	2,069
2	9,938	14,457	8,443	5,114	0,000	0,000
3	7,639	3,483	18,744	8,659	8,120	1,463
4	3,262	13,853	20,854	4,204	4,342	13,393
5	17,984	11,974	1,253	7,285	3,214	6,730
6	6,887	27,992	11,869	7,451	0,000	3,280
Mean	10,157	12,011	11,954	6,019	2,849	4,489
STDEV	5,507	9,741	7,129	2,077	3,112	4,918
CV%	54,22	81,10	59,64	34,51	109,27	109,55
% inhibition		-18,26	-17,69	40,74	71,95	55,80

## Várka 2

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	14,886	14,376	12,184	7,940	6,360	3,763
2	17,557	5,922	14,051	10,535	2,864	7,269
3	11,509	13,534	6,661	3,703	7,617	7,609
4	9,763	9,369	7,701	4,640	5,189	6,868
5	10,208	3,525	5,439	5,403	6,053	8,437
6	13,053	16,001	6,163	9,564	5,661	3,441
Mean	12,829	10,455	8,700	6,964	5,624	6,231
STDEV	2,988	5,007	3,550	2,791	1,582	2,104
CV%	23,29	47,90	40,80	40,07	28,12	33,76
% inhibition		18,51	32,19	45,72	56,16	51,43

Klasické nedopalky 8.12.2022

Várka 1

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	10,120	4,199	15,453	7,277	1,366	11,641
2	10,536	13,612	10,179	0,000	2,419	5,091
3	10,920	9,904	7,630	7,442	8,550	1,283
4	11,167	9,814	16,121	4,134	0,623	2,432
5	12,895	4,562	18,637	8,161	7,473	8,569
6	4,662	8,024	3,242	3,502	0,000	3,696
Mean	10,050	8,353	11,877	5,086	3,405	5,452
STDEV	2,806	3,576	5,865	3,133	3,674	3,943
CV%	27,92	42,81	49,38	61,61	107,89	72,32
% inhibition		16,89	-18,18	49,39	66,12	45,75

Várka 2

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	14,050	7,488	16,824	11,180	8,582	2,989
2	10,340	14,447	11,709	6,182	8,249	2,246
3	8,218	9,352	16,295	10,178	6,611	6,751
4	9,938	11,945	19,116	7,976	7,372	4,404
5	16,383	14,577	9,372	9,067	9,077	6,711
6	9,712	20,658	12,680	9,318	7,523	4,615
Mean	11,440	13,078	14,333	8,984	7,902	4,619
STDEV	3,101	4,647	3,665	1,745	0,901	1,858
CV%	27,11	35,54	25,57	19,43	11,40	40,22
% inhibition		-14,32	-25,28	21,47	30,92	59,62



## Várka 1

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	9,939	6,843	10,413	3,425	1,501	3,575
2	9,110	0,566	6,112	7,771	12,074	4,862
3	12,561	6,544	8,927	5,842	2,762	5,071
4	11,776	11,099	3,702	6,150	7,061	6,219
5	7,162	18,670	4,922	3,341	7,120	3,157
Mean	10,110	8,744	6,815	5,306	6,104	4,577
STDEV	2,151	6,697	2,792	1,902	4,182	1,229
CV%	21,27	76,59	40,96	35,85	68,51	26,85
% inhibition		13,50	32,59	47,52	39,63	54,73

## Várka 2

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	13,095	12,264	3,023	10,516	3,813	4,169
2	19,016	0,000	10,107	14,593	4,864	10,313
3	25,210	11,587	10,829	11,442	5,957	5,667
4	15,872	16,526	15,445	13,414	2,540	11,272
5	23,348	16,837	12,689	12,058	6,272	7,443
Mean	19,308	11,443	10,419	12,405	4,689	7,773
STDEV	5,041	6,830	4,620	1,614	1,544	3,009
CV%	26,11	59,68	44,34	13,01	32,92	38,72
% inhibition		40,74	46,04	35,75	75,71	59,74

Várka 1

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	11,964	14,827	13,928	13,498	7,055	4,569
2	18,756	13,863	13,076	14,719	11,774	5,621
3	8,161	16,244	18,294	4,504	6,509	2,430
4	27,458	14,283	24,330	15,971	6,457	1,889
5	20,414	15,239	19,170	9,930	9,667	8,973
Mean	17,351	14,891	17,760	11,724	8,292	4,696
STDEV	7,533	0,920	4,529	4,623	2,350	2,836
CV%	43,42	6,18	25,50	39,43	28,34	60,39
% inhibition		14,17	-2,36	32,43	52,21	72,93

Várka 2

CONCENTRATION						
	control	10	25	50	75	100
Replicate	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )	Area (mm <sup>2</sup> )
1	9,702	12,573	16,642	5,430	1,848	4,549
2	17,739	19,552	11,090	5,970	5,856	2,228
3	19,053	17,068	11,003	10,815	4,163	5,540
4	12,688	12,425	12,645	10,291	2,947	0,000
5	16,835	10,982	14,834	7,674	5,635	3,307
Mean	15,203	14,520	13,243	8,036	4,090	3,125
STDEV	3,889	3,623	2,454	2,449	1,721	2,148
CV%	25,58	24,95	18,53	30,48	42,07	68,75
% inhibition		4,50	12,90	47,14	73,10	79,45