SUPPLEMENTARY MATERIAL

Artificial water reservoirs as nature conservation areas in Poland

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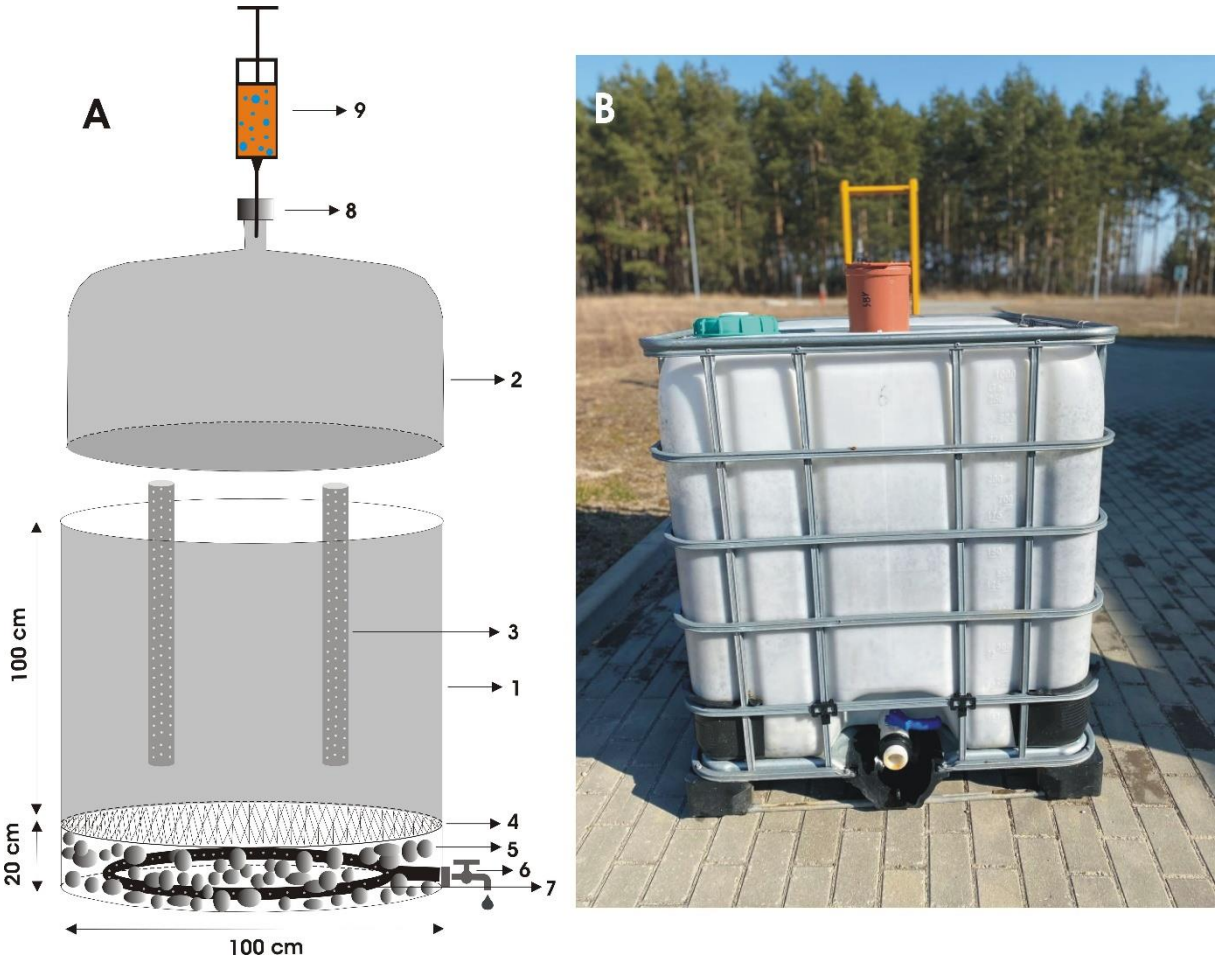

Fig. S1. Scheme of a column with a static chamber: A) technical parameters of the column, B) prepared control column with installed chimney; *1* = column filled with bird droppings, *2* = static chamber accumulating gases, *3* = perforated PVC pipes placed in the manure, facilitating the migration of gases towards the static chamber, *4* = nonwoven fabric retaining suspension from leachate, *5* = drainage from pebbles, *6* = drain valve for leachate, *7* = leachate collection system, *8* = chimney with a valve enabling gas sampling, *9* = gas sample for laboratory analyses; source: own elaboration

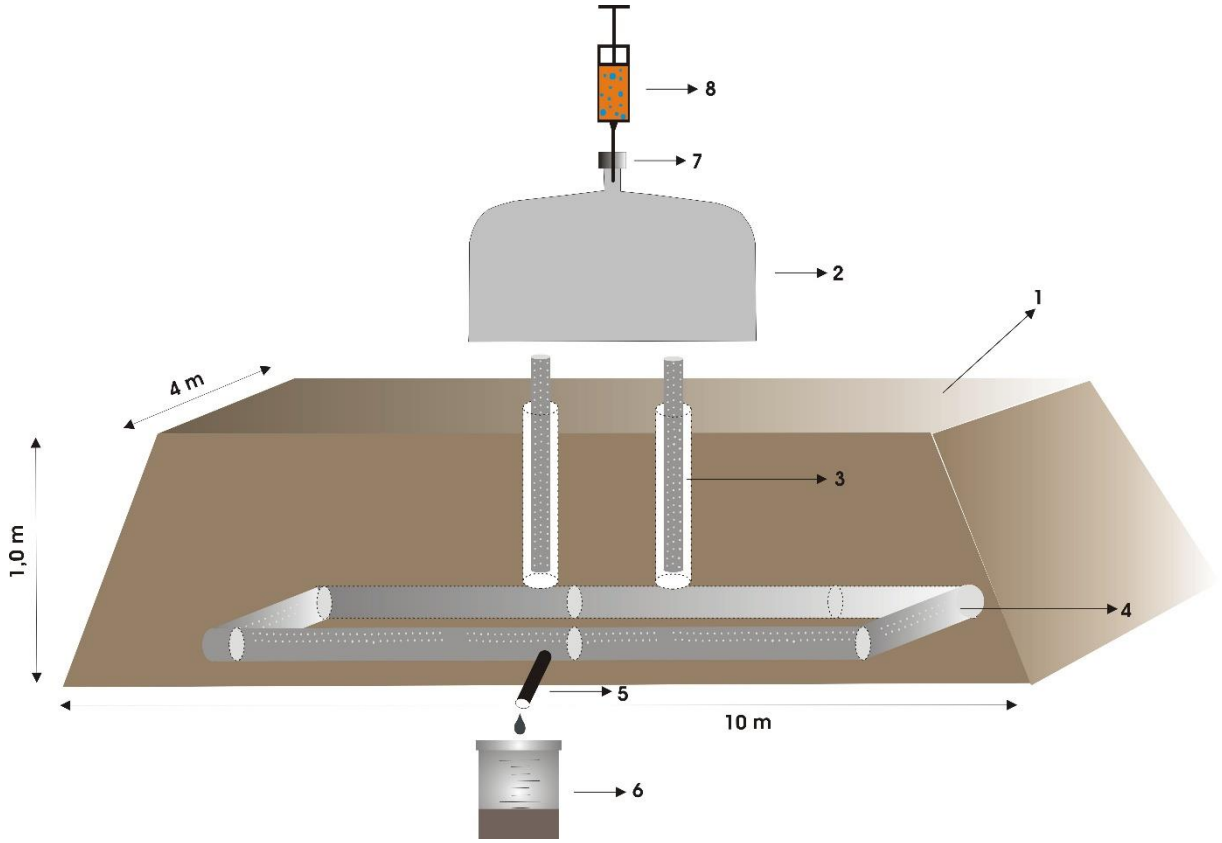

Fig. S2. Diagram and parameters of the manure pile with a static chamber located on it: *1* = manure pile, *2* = static chamber accumulating gases, *3* = perforated PVC pipes placed in the manure, facilitating the migration of gases towards the static chamber, *4* = leachate collection system, *5* = drain valve for leachate, *6* = vessel for leachate, *7* = chimney with a valve enabling the collection of gas samples, *8* = gas sample for laboratory analyses; source: own elaboration

Photo S1. Preparation of the bacterial preparation: A) bioreactor with bacterial culture, B) drops of sample dilutions in Petri dishes, C) emulsion homogenisation process, D) hard capsule formation process in a spray dryer, E) bacterial powder obtained in a spray dryer, F) liquid bacterial culture (phot.: *J.M. Kupiec*)

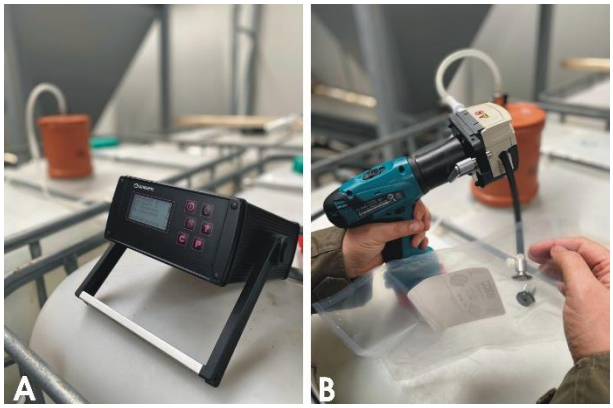

Photo S2. Measurement of gases in columns and sampling: A) measurements of odorous and greenhouse gases, B) collecting gas samples to analyse of methane and its gas homologues (phot.: *J.M. Kupiec*)

Table S1. Moisture content of poultry manure (EI)

Date of sampling	Column	Value	Moisture of chicken manure (%)
1st week	1 (control)	mean	51.83
		range	51.05–52.31
11th week	1 (control)	mean	45.66
		range	45.06–46.27
	2 – inoculated with denitrifiers	mean	69.23
		range	68.23–70.32
	3 – inoculated with conditioning bacteria	mean	46.48
		range	45.87–47.65
	4 – inoculated with a microbiological composition – denitrifying bacteria + conditioning bacteria	mean	68.88
		range	68.56–69.32

Source: own study.

Table S2. Results of testing the moisture content of poultry manure (EII)

Week of sampling	Value	Moisture (%)	
		chicken manure	turkey manure
1st week	mean	35.4	43.4
	range	33.6–36.7	41.3–45.9
5th week	mean	35.1	44.7
	range	32.8–37.6	42.8–47.4
15th week	mean	55.1	54.6
	range	54.3–56.4	52.9–56.9
23rd week	mean	29.1	23.7
	range	28.3–29.5	22.5–25.4
31st week	mean	22.9	16.8
	range	22.0-24.4	15.4–17.7
42nd week	mean	14.8	12.7
	range	14.3–15.4	11.3–14.3

Source: own study.

Table S3. Pearson correlations with odour nuisance at 1 m

Weather variable	Chicken manure		Turkey manure	
	r	***p*-value**	***r***	***p*-value**
T_{max}	–0.89	<0.001	–0.87	0.002
Hum	0.76	0.003	0.72	0.008
Winp	0.32	0.210	0.35	0.180
Sol	0.68	0.008	0.65	0.012

Explanations: r = Pearson correlation coefficient, p-value = 0.05, T_{max} = maximum temperature, *Hum* = air humidity, *Winp* = wind power (subjective value), *Sol* = insolation (subjective value).
Source: own study.

Table S4. Significance tests of differences depending on the distance from manures

Distance from piles manure (m)	Student's *t*-test (*p*-value)	Mann–Whitney test (*p*-value)
1	0.045	0.038
3	0.012	0.010
6	0.210	0.185

Explanation: p-value as in Tab. S3.
Source: own study.