

## 1 Supplementary Information

2 Article title: Can amino acids be used to inhibit germination or deplete the soil seedbank of  
3 *Phelipanche ramosa* (L.) Pomel?

4 Journal name: Journal of Plant Diseases and Protection

5 Author names : Stéphanie Gibot-Leclerc, Fabrice Dessaint, Manon Connault, Rémi Perronne

6 Corresponding author: Rémi Perronne, IGEPP, INRAE, Institut Agro, Univ Rennes, 35653, Le  
7 Rheu, France ; e-mail address: remi.perronne@inrae.fr

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9 **Table S1** Raw data of the experiment ordered by session, including results of the negative  
10 control (only water), the positive control (only GR24) and the 14 amino acids tested. From left  
11 to right: the session considered, the treatment applied, the number of germinated seeds of *P.*  
12 *ramosa* with GR24 and amino acid application (i.e. step 1, 10 days after the beginning of the  
13 experiment), the number of germinated seeds with GR24 after removal of amino acid (i.e. step  
14 2, 20 days after the beginning of the experiment), the number of ungerminated but viable seeds,  
15 the number of ungerminated dead seeds, the total number of seeds of *P. ramosa* used. See  
16 Material and methods for experimental details

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Session	Treatment	Germinated seed		Ungerminated seed		Total seed
		10 days	20 days	Viable	Dead	
S1	only water	1	0	236	35	272
S1	only GR24	587	5	8	54	654
S1	alanine	421	0	10	512	943
S1	histidine	274	1	0	64	339
S2	only water	0	0	228	9	237
S2	only GR24	862	23	5	71	961
S2	arginine	1	712	8	117	838
S2	lysine	1	479	12	350	842
S2	methionine	640	74	5	193	912
S2	proline	594	69	5	125	793
S2	tryptophan	0	2	8	759	769
S3	only water	0	0	152	19	171
S3	only GR24	418	4	5	36	463
S3	aspartate	669	0	5	97	771
S3	glutamine	763	0	7	100	870
S3	isoleucine	235	0	3	80	318
S3	phenylalanine	21	0	1	349	371
S4	only water	0	0	183	5	188
S4	only GR24	522	12	5	42	581
S4	asparagine	524	4	7	40	575
S4	glycine	521	21	8	69	619
S4	tyrosine	266	42	15	354	677

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20 **Table S2** Germination rate (%) and confidence interval of *P. ramosa* with GR24 and amino  
21 acid (AA) application compared with Vurro et al. (2006). \* Amino acid with roughly the same  
22 germination rate between the two studies

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Amino acid	GR24 with AA application		Vurro et al.
	Germination rate	CI 95%	Germination rate
glutamine*	87.7%	[85.3; 89.8%]	80%
glycine	84.2%	[81.0; 87.0%]	13%
histidine	80.8%	[76.2; 84.9%]	0%
proline	74.9%	[71.7; 77.9%]	0%
methionine	70.2%	[67.1; 73.1%]	29%
alanine	44.6%	[41.4; 47.9%]	25%
lysine	0.1%	[0.0; 0.7%]	26%
arginine*	0.1%	[0.0; 0.7%]	0%

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25 When considering the results of the study by Vurro et al (2006), carried out on *P. ramosa* seeds  
26 harvested from tobacco, i.e., the same pathosystem as in our study, we found that these results  
27 differed for most amino acids. However, we did not use the same GR24 concentration and  
28 exposure time before counting, i.e., five days after application of the amino acid for Vurro et  
29 al. (2006) while ten days in our study.