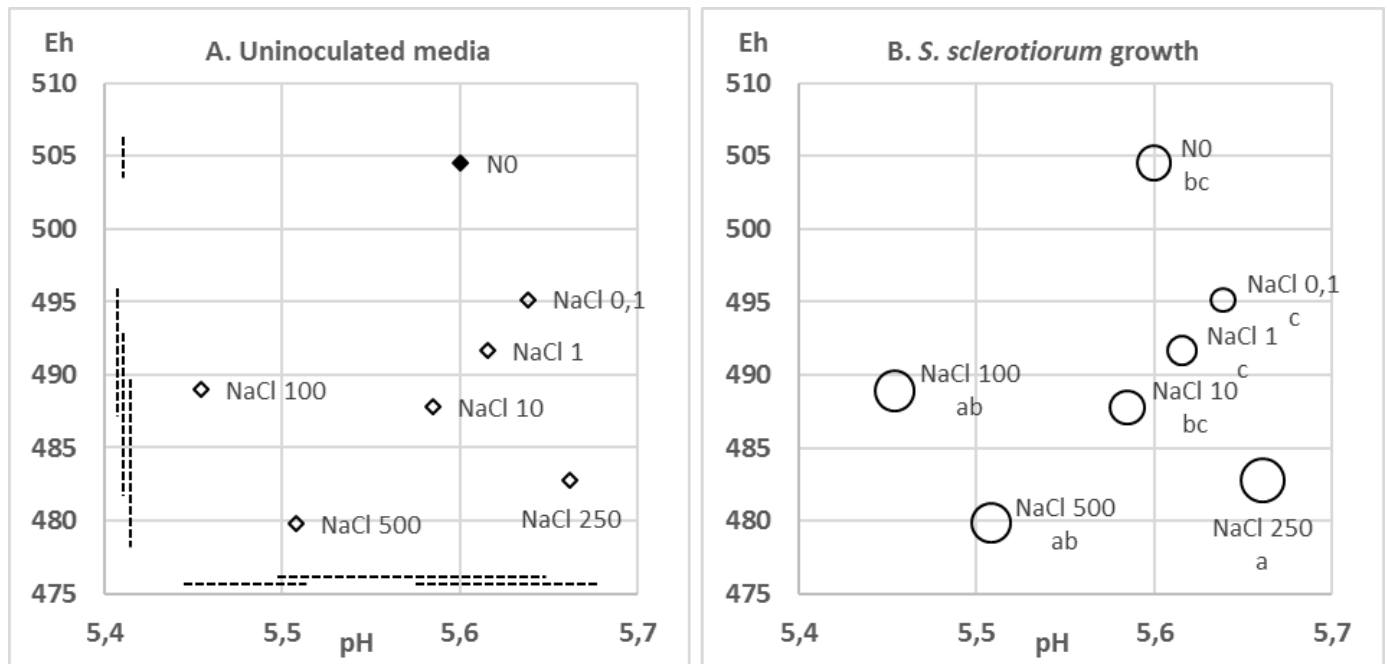


A method to measure redox potential (Eh) and pH in agar media and plants shows that fungal growth is affected by and affects pH and Eh

Lydia Bousset ^a, Magali Ermel ^a, Brigitte Soglonou ^b, Olivier Husson ^{b, c, d}

Fig. S1 Effect of NaCl in the Sep15 experiment A. on the pH and Eh of the uninoculated malt-agar media; B. on the growth *S. sclerotiorum* colonies. Uninoculated medium (Panel A) was native (filled symbol) or with addition of NaCl up to 500 ppm (empty symbols). Dashed lines correspond to significantly different groups for pH (horizontal) and Eh (vertical) in the REGWQ analysis. In Panel B, size of circles correspond to colony diameter. Letters correspond to significantly different groups in the REGWQ analysis.

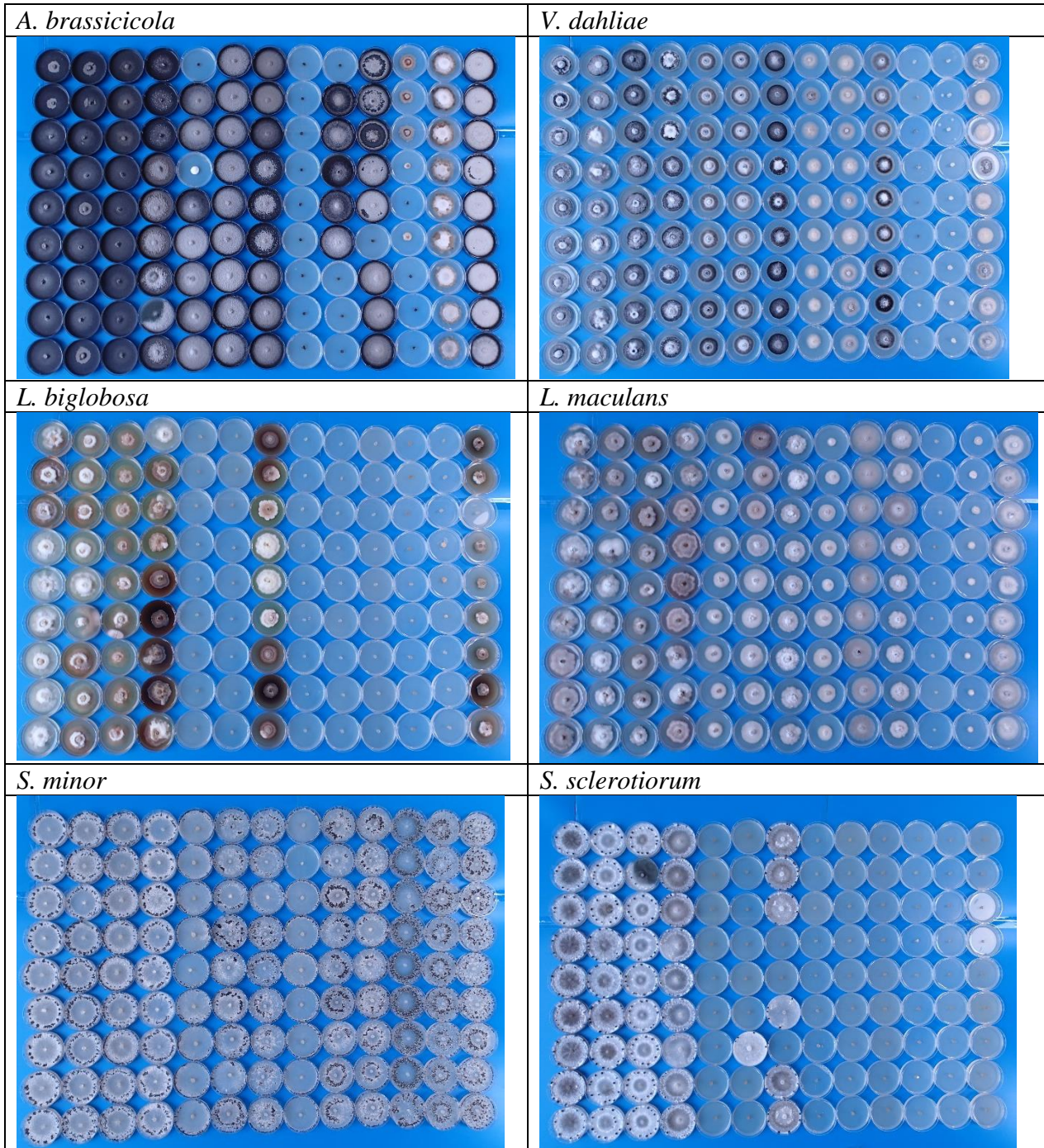


The experiment was performed on a range of 7 malt-agar media (Malt extract 20 g.l⁻¹, Agar 20 g.l⁻¹, Streptomycin 0.1 g.l⁻¹) with increasing concentrations of NaCl (0, 0.1, 1, 10, 100, 250, 500ppm). Given the amount of NaCl added during water electrolysis and subsequent media preparation, final concentration was below 500ppm. Media were prepared 21/09/2015, inoculated 22/09/2015 and final assessment of colony growth was performed 25/09/2015 for *A. brassicicola*, *S. minor*, *S. sclerotiorum* and 08/10/2015 for *L. biglobosa*, *L. maculans* and *V. dahliae*.

Fig. S2 *Measurement of Eh on plant stems. The plant material grinded with a mortar and pestle was placed in the barrel of a 5 ml syringe from which the nozzle had been cut. In the 9 cm Petri dish, the filter paper was moistened with 0.1M KCl solution. The Ag/AgCl reference electrode was placed standing, with tip touching the moist filter paper. The Pt plate electrode was placed in the plant material in the syringe, then the syringe barrel was placed standing with tip touching the moist filter paper.*



Fig. S3 Colony aspect at the end of the Jul15 experiment on native and altered agar media for six fungi. Each panel correspond to a single strain transferred the same day and grown in the same room, with the 13 media in columns and replicates in lines. Within the experiment, lines 1 to 3; 4 to 6; 7 to 9 correspond to the three independent replicates (i.e. is preparation in independent bottles, and inoculation with agar plugs from a different source plate). Within upper, central and lower groups, dishes were prepared from the same bottles for all fungi. Mean pH and Eh values measured on aliquots corresponding to the 13 columns are given below. Note: colony diameter had been assessed earlier than the picture for fast growing fungi. Dishes are 5 cm in diameter.



pH	7,4	6,8	5,8	5,0	5,1	5,3	5,5	4,7	4,4	4,4	3,5	3,3	3,4
Eh	411	454	533	576	555	544	551	572	650	687	599	647	703