

Behavioural response in plants: adjustment in algal recruitment induced by herbivores

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SUMMARY

Behavioural responses to chemical cues are common among animals, whereas there is still intense debate as to whether plants are able to detect environmental information and adjust their behaviour accordingly. Here, I report that several freshwater algal species respond to the presence or absence of grazers in the water column by regulating their recruitment rate from sediment to water. In lakes, as well as in controlled laboratory experiments with low abundances of grazers, recruitment of certain flagellated algal species was high, whereas recruitment was negligible when grazer abundances were high. Hence, certain plants equipped with locomotion organelles can use cues released from herbivores to adjust the timing of recruitment from the 'seed-bank', thereby reducing the exposure to grazing. Such an adaptation may have important consequences for dominance and temporal succession in algal communities. In an evolutionary context, this study shows that consumer-avoidance behaviour is not an adaptation exclusive to animals.