The effects of simulated acid rain on growth and biochemistry process in grass (Lolium perenne)

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The effects of simulated acid rain (pH 3 and 4) and control (rain with pH 5.7) on phisiological (germination and grown) and biochemistry process (chlorophyll a and b, carotenoid pigments, peroxidase, catalase) in Lolium perenne were studied. Simulated „rain" (by adding sulphuric acid) and normal rain was applied by spraying daily for 10 days from the beginer of the experiment. The results indicated that under stress of simulated acid rain, the germination and the grown decrease with the declining of pH values of acid rain. The green pigments from grass exposed to simulated acid rain with pH 3 were 18,35 mg/g leaves, in comparison with the control, where the content of green pigments were 23,076 mg/g leaves. Similar data was obtained when we measurements the carotenoid pigments. The peroxidase activity was enhanced to the end of experiment, in the case of the samples spraying with acid rain with pH 3 respectively 4, comparative with control. The change in activity of peroxidase was higher than catalase activity, which showed that peroxidase was more sensitive to acid rain stress than catalase.