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The 21st International Grassland Congress / 8th International Rangeland Congress took place in Hohhot, China from June 29 through July 5, 2008.

Proceedings edited by Organizing Committee of 2008 IGC/IRC Conference

Published by Guangdong People's Publishing House

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Effects of drought Stress on protective enzymes activities in leaves of *Lespedeza dahurica* seedlings

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Key words : *Lespedeza dahurica* ,drought resistance ,activities of protective enzymes ,SOD ,POD

Introduction As forage plant ,*Lespedeza dahurica* has high feeding value , a certain extent ability of drought resistance as well . In order to evaluate the drought resistance of *lespedeza* seedlings in Shanxi province , the activities of protective enzymes are studied under drought stress conditions . The purpose of this dissertation is to study the relationship of protective enzymes activities and drought tolerance in two different wild regions .

Materials and methods Seeds from two different regions of Shanxi province are inseeded in the beakers(500 ml) filled with sand to develop . The environmental temperature maintains at 22-26°C and the relative humidity maintains at 75-80% . Carry out drought stress when the seedlings have three small leaves .The relative water content grads are 25% ,40% ,55% ,70% , 85% . Measure the activities of superoxide dismutase (SOD) enzymes and peroxidase (POD) enzymes of the leaves after ten days .

Results The activity of superoxide dismutase (SOD) enzymes of *Lespedeza dahurica* enhance along with the rise of drought stress(Figure 1) .The activity of peroxidase (POD) enzymes of two regions increased first then decreased ,the Yangquan and Qinyuan regions are the highest at the four grads and the third grads respectively(Figure 2) .The drought-tolerant region from Yangquan has higher activities of SOD and POD then the Qinyuan region .

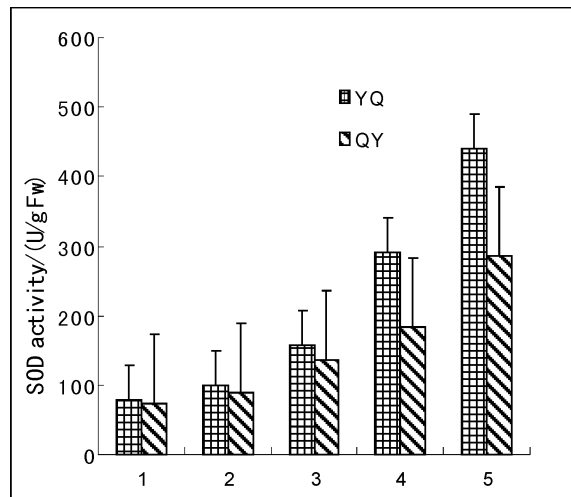


Figure 1 Effect of drought stress on activities of SOD .

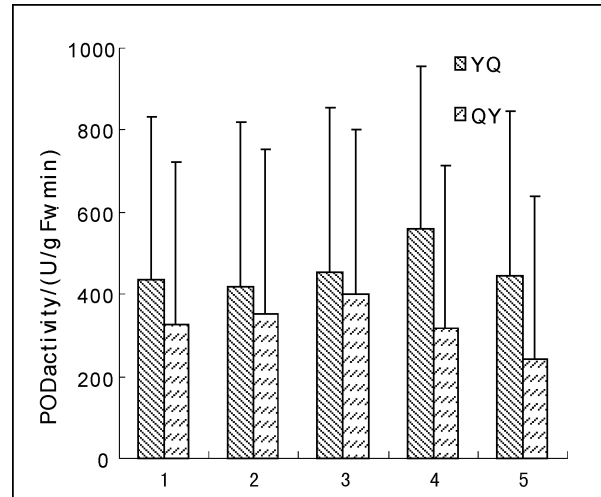


Figure 2 Effect of drought stress on activities of POD .

Conclusions The seeds of different regions in Shanxi province represent different drought resistance . The seeds from Yangquan has higher drought resistance because of higher activities of enzymes . SOD enzymes is more sensitive to drought stress than POD enzymes because of the further increase of activities .

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