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摘要: 以7份抗旱性存在差异的野生大豆和栽培大豆为材料, 苗期用20%PEG₆₀₀₀进行模拟干旱胁迫处理, 测定处理1~6 d的超氧化物歧化酶(SOD)、过氧化物酶(POD)活性和游离脯氨酸(Pro)、可溶性糖(WSS)、叶绿素和丙二醛(MDA)含量的变化情况。结果表明: 在干旱胁迫下, 不同材料大豆SOD和POD活性均呈先升后降的趋势; Pro、WSS和MDA含量呈持续上升的趋势; 叶绿素含量在胁迫后1~2d增加。野生大豆与栽培大豆比较, SOD和POD对干旱胁迫的响应速度较快; 叶绿素含量变化较为平缓; MDA含量增幅较小。

Abstract: Seven soybeans with different drought resistance were used as materials in this study to research the variation of relevant drought resistance indexes with drought stress time. The drought conditions were imitated with 20% PEG₆₀₀₀ at soybean seedling stage. Superoxide dismutase (SOD) and peroxidase (POD) activities and free proline (Pro), soluble sugar (WSS), chlorophyll and malondialdehyde (MDA) contents were measured from the first day to sixth day after drought treatment. The results showed that with the increase of stress time, activities of SOD and POD rose at first and then descend. Contents of Pro, WSS and MDA appeared rise continually. Meanwhile, chlorophyll contents increased in the first day to second day. The response speed of SOD and POD of wild soybeans to drought stress was significantly faster than cultivated soybeans. Chlorophyll content of wild soybeans changed relatively gently, while the variation of cultivated soybeans was drastic. MDA content of wild soybeans grew much less than cultivated varieties during the whole drought stress treatment.

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