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野生大豆碱胁迫反应的研究

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摘要：

从吉林省白城市盐碱地采集了野生大豆Glycine soja 345份，用不同盐碱化程度的盐碱土从播种开始胁迫，随着盐碱胁迫程度增加，发芽率和株高逐渐降低，pH值为9.02可抑制50%野生大豆的萌发和生长。用浓度为0、50、75、150、300、500 mmol/L的NaHCO3胁迫3周龄幼苗，浓度为0、50 mmol/L时幼苗可以正常存活，浓度为75、150、300、500 mmol/L时幼苗分别于19、6.5、3、0.5 h左右开始萎蔫。筛选能够在pH值9.0的盐碱土中发芽、生长、开花、结实的野生大豆材料，选择其中发芽率和结实率均较高的9份材料，测定了叶绿素含量、相对电导率和丙二醛含量，编号为G07048、G07092和G07256的3份材料在胁迫前后3个指标差异不显著，具有较强的耐盐碱能力。

关键词： 野生大豆 NaHCO3 碱胁迫 苏打盐碱土

Research on responses of wild soybean to alkaline stress

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Abstract:

345 lines of wild soybeans (Glycine soja) were collected from alkaline land in Baicheng of Jilin province. Different alkaline degrees soil was used for stress treatment from seeding. The germination rate and plant height were decreased with the increasing of alkaline concentration. Seed germination and growth were inhibited by 50% at pH 9.0. The 3 weeks seedlings were treated with 0, 50, 75, 150, 300, 500 mmol/L NaHCO3, which indicated that the seedlings grew normally under 0 or 50 mmol/L stress and the others wilted after 19, 6.5, 3, and 0.5 h respectively. 9 lines were selected with high germination rate and seed setting rate in alkaline soil (pH 9.0). Their contents of Chlorophyll, relative electrical conductivity and malondialdehyde were measured. G07048，G07092 and G07256 had no significant difference in the above index after stress treatment and were alkaline tolerant.

Keywords: wild soybean NaHCO3 alkaline stress saline sodic soil

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