

植物生产层

PEG-6000对老芒麦种质材料萌发期抗旱性影响的研究

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摘要:

为了解老芒麦Elymus sibiricus种质材料萌发期的抗旱性, 选取7份来自不同地区的老芒麦种质材料, 在0、50、100、150、200、250和300 g/L的聚乙二醇(PEG 6000)的胁迫下, 对相对发芽率、发芽势、发芽指数、种子活力、胚根/胚芽值进行综合测定评价, 结果表明: 高抗旱性老芒麦分别来自新疆昌吉阜康白杨沟的E03、山西五台山的E04和甘肃碌曲玛艾的E07; 抗旱性偏弱的材料是山西五台山的E01、新疆伊犁的E02、新疆乌鲁木齐甘沟的E05; 山西沁源县的E06的抗旱性最差。老芒麦作为优良的牧草, 研究其在PEG 6000胁迫下时的萌发特性的变化, 对其优良品种的选育具有重要意义。

关键词: 抗旱性; 老芒麦; 发芽特性; PEG-6000

Effects of PEG 6000 on drought resistance of Elymus sibiricus germplasm at germination stage

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Abstract:

In order to understand the drought resistance of Elymus sibiricus at germination stage, seven germplasm materials were collected at various locations in China. The seeds were treated with PEG 6000 solution at the concentration of 50,100,150 g/L, and the relative germination rate, germination potential, germination index, seed vitality index and shoot/root lengths were evaluated comprehensively. The results showed that the high tolerant drought resistance group included Jibukang which came from Changji, Xinjiang (E03); Wutaishan of Shanxi (E04); Luqumaai of Gansu (E07). The intermediate drought resistance group included materials which came from Wutaishan of Shanxi (E01); Yili Xinjiang (E02); Gangou Urumchi of Xinjiang (E05). The sensitive drought resistance material was Qinyuan, Shanxi (E06). E. sibiricus was studied on the changes of seed germination characters under PEG 6000 resistance as a good pasture, which had the significant meaning for breeding.

Keywords: drought resistance Elymus sibiricus germination characters PEG 6000

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