

植物生产层

浸种对羊草种子发芽和幼苗生长的影响

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摘要:

以吉生羊草 (Leymus chinensis) (人工繁育品种) 和天然野生羊草种子为材料, 研究了不同浸种时间对2种羊草种子发芽的影响, 并测定不同质量分数赤霉素 (GA3) 48 h浸种 (最佳浸种时间) 对2种羊草种子的发芽和幼苗生长的影响。结果表明, 吉生羊草和野生羊草种子浸种48 h, 发芽率和活力指数均最高, 与各自的对照组相比均差异显著 (P<0.05)。较低质量分数的GA3可促进吉生和野生羊草种子的发芽率、发芽指数、发芽势和活力指数, 而较高质量分数的GA3则表现为不同程度地抑制作用。经300 µg/g GA3处理的吉生羊草和野生羊草种子, 其幼苗高度均最高, 分别为12.39和14.06 cm, 与各自对照组相比差异显著 (P<0.05)。GA3浸泡48 h促进吉生和野生羊草种子的发芽,最适质量分数均为300 µg/g。

关键词: GA3;羊草;发芽;幼苗生长

Effect of soaking time and GA3 concentration on germination and growth of Leymus chinense seeds

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Abstract:

Present study investigated the effect of soaking time and different concentration of gibberellin on germination and seedling growth of Leymus chinensis cv. Jisheng (artificial breeding) and wild L. chinense (natural cultivar). The results of this study showed that the germination rate and the vigor index of both L. chinensis cv. Jisheng and wild L. chinense seeds were significantly increased by water soaking 48 h compared with the controls (no soaking, P<0.05). The height of L. chinensis cv. Jisheng and wild L. chinense seedlings treated by 300 µg/g GA3 for 48 h was the highest, which were 12.39 cm and 14.06 cm, respectively, and were significant different from that of the controls (P<0.05). The germination rate, germination index, germination potentiality and vigor index were promoted by lower concentration of GA3 treatments (soaked with GA3 for 48 h), but inhibited by high GA3 concentration in varying degrees. It was concluded that the best treatment for the germination of L. chinensis cv. Jisheng and wild L. chinense was 300 µg/g GA3 soaking seeds for 48 h.

Keywords: GA3 Leymus chinense germination seedling growth

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