

## 转BADH基因紫花苜蓿山苜2号品种的抗盐性鉴定及系统选育

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## Breeding and Salt Resistance Evaluation of *BADH* Transgenic Alfalfa Cultivar Shanmu 2

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摘要

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**摘要** 利用转基因技术创造苜蓿新种质已成为牧草新技术育种的重要组成部分。为了有效地从苜蓿转基因植株及其后代中选育出优良品种, 深入研究转基因苜蓿的植物学性状及其产量十分重要。以通过农杆菌介导技术获得的T<sub>0</sub>代转*BADH*基因苜蓿为试材, 利用分子生物学方法对其自交株系的世代群体连续进行抗盐性鉴定筛选和系统选育, 首次获得了具有抗盐碱能力的转基因苜蓿稳定株系。同时, 通过品种比较实验、区域实验和生产实验, 表明在不同盐碱地条件下, 转*BADH*基因的苜蓿植株产草量明显高于对照(未转基因的中苜1号), 生产实验的干草增产率介于13.11% - 24.98%之间。上述结果表明, 外源目的基因主要特性的遗传稳定, 进而从实践上验证了转*BADH*基因工程操作的实用性。

**关键词:** 紫花苜蓿 *BADH*基因 耐盐 选育 山苜2号 转化

**Abstract:** Generating new germplasm of alfalfa by transgenic technology has become important in forage breeding. Using a T<sub>0</sub> generation of transgenic plants with betaine aldehyde dehydrogenase (*BADH*) gene as testing material, we tested the resistance to salt. The transgenic grass biomass was higher than that of the non-transgenic control in different salt soils. Dry grass production was higher by 13.11% to 24.98% in the transgenic cultivar than in the control. The betaine aldehyde dehydrogenase gene was stably expressed and inherited, suggesting that this transgenic line can be used for further breeding.

**Keywords:** alfalfa betaine aldehyde dehydrogenase gene salt-tolerance selection breeding shanmu 2 cultivar transformation

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