

## 施钾对青引1号燕麦草产量及根系的影响

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Effects of potassium fertilization on fodder yield and root system of Avena sativa cv. Qingyin No.1

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**摘要** 在缺钾地区, 开展了不同施钾对青引1号燕麦(Avena sativa cv. Qingyin No.1)干物质产量和根系的影响, 找出最佳施钾量, 为青海省燕麦种子生产提供依据。结果表明, 在施N 54.75 kg/hm<sup>2</sup>和施P<sub>2</sub>O<sub>5</sub> 51.75 kg/hm<sup>2</sup>的基础上, 施K<sub>2</sub>O 40 kg/hm<sup>2</sup>, 青引1号燕麦开花期收获时可获得最高的干物质产量和蛋白产量, 分别为29575.0和2099.8 kg/hm<sup>2</sup>, 二者均符合Y=a+bK+cK<sup>2</sup>函数变化。施K<sub>2</sub>O 40 kg/hm<sup>2</sup>, 青引1号燕麦株高、总分蘖数、根长和根数最大, 分别为184.5 cm、3.22个/株、15.90 cm和26.17条/株; 施K<sub>2</sub>O 20 kg/hm<sup>2</sup>时, 植株茎粗和根量达最大, 分别为0.585 cm和0.540 g/株。各产量性状、地下生物量以及饲草和蛋白产量间均存在显著或极显著正相关关系。

**关键词:** 青引1号燕麦 钾肥 饲草产量 根系

**Abstract:** Effects of potassium fertilization on dry matter yield and root system of Avena sativa cv. Qingyin No.1 were studied to optimize the potassium application for oats production in a potassium deficient area. The results show that the optimum fodder and protein yields of the cultivar are 29575.0 kg/ha and 2099.8 kg/ha respectively at the blossom stage under the N 54.75 kg/ha, P<sub>2</sub>O<sub>5</sub> 51.75 kg/ha and K<sub>2</sub>O 40 kg/ha fertilization. Relation between dry matter, protein yield and K application can be described as Y=a+bK+cK<sup>2</sup>. Under the K<sub>2</sub>O 40 kg/ha treatment, the plant height, tiller, root length and root number of the cultivar are the highest, are about 184.5 cm, 3.22 till/plant, 15.90 cm and 26.17 roots/plant, respectively. Under the 20 kg/ha K<sub>2</sub>O fertilization, diameter of stem and root weight are the highest, 0.585 cm and 0.540 g/plant, respectively. There are significant correlations between above-ground, under-ground yields and fodder, protein yields.

**Keywords:** Avena sativa cv. Qingyin No.1 potassium fertilizer fodder yield root system

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