

植物生产层

氮磷钾锌肥配施对墨西哥玉米草首次刈割产量及品质的影响

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摘要:

采用盆栽方法, 研究氮、磷、钾、锌肥配施对墨西哥玉米草 (*Zea mexicana*) 首次刈割产量和品质的影响。结果表明, 氮、磷、钾、锌肥能显著提高墨西哥玉米草首次刈割鲜草和干草 (叶片+茎鞘) 产量 ($P < 0.05$)。与对照相比, 施肥处理饲草鲜质量和干质量增幅为 7.00%~39.08% 和 6.02%~37.94%, 且氮肥对墨西哥玉米草的增产作用大于磷、钾肥。氮、磷、钾、锌肥也能显著提高墨西哥玉米草粗蛋白、粗脂肪、粗纤维和粗灰分的含量和产量 ($P < 0.05$), 且叶片粗蛋白、粗脂肪、粗纤维含量大于茎鞘; 氮、磷、钾、锌肥还显著降低了无氮浸出物含量, 茎鞘无氮浸出物含量均高于叶片, 但施肥对无氮浸出物产量影响不大。氮肥对墨西哥玉米草营养成分含量提高作用大于磷、钾肥, 配施锌肥有助于墨西哥玉米草产量的提高和营养品质的改善。总之, 氮、磷、钾和锌肥配施能显著提高墨西哥玉米草产量, 并改善其营养品质。

关键词: 墨西哥玉米草; 氮肥; 磷肥; 钾肥; 锌肥; 产量; 品质

Effect of N, P, K and Zn fertilization on first cutting yield and quality of *Zea mexicana*

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Abstract:

A pot experiment was conducted to determine the effect of N, P, K and Zn application on the first cutting yield and nutrient quality of *Zea mexicana*. The results of this study showed that nitrogen, phosphorus, potassium and zinc fertilizers significantly increased the first cutting fresh yield and hay (leaf + stem sheath) yield of *Z. mexicana* by 7.00%~39.08% and 6.02%~37.94%. The increase in yield of *Z. mexicana* caused by nitrogen fertilizer was greater than that caused by phosphate and potassium fertilizer. The nitrogen, phosphorus, potassium and zinc fertilizers also significantly increased crude protein, crude fat, crude fiber and crude ash's content. The crude protein, crude fat, crude fiber's content of leaves were greater than that of stem and sheath. The positive effectiveness of nitrogen fertilizer on *Z. mexicana* quality was greater than that of phosphate and potassium fertilizer on *Z. mexicana* quality. This study also indicated that zinc fertilizers contributed to improve the yield and nutritional quality of *Z. mexicana*. This study suggested that nitrogen, phosphorus, potassium and zinc fertilizers fertilization could increase the yield of *Z. mexicana* and improve nutritional quality of *Z. mexicana*.

Keywords: *Zea mexicana* nitrogen phosphorus potassium zinc yield quality

收稿日期 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者:

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