

## 控释氮肥对辣椒的生理效应及利用率研究

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### Study on physiological effect and fertilizer utilization rate of controlled release nitrogen fertilizer for pepper

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**摘要** 利用盆栽试验和田间生物试验,研究了控释N肥脲醛类肥料品种脲甲醛(UF)与速效N肥不同品种对辣椒生长、形态指标、产量及利用率的影响;并采用覆膜和露地2种大田栽培法探讨了不同控释肥用量对辣椒产量和品质的肥料效应。结果表明,辣椒对控释N肥中N的吸收利用率最高,达44.4%,较其它N肥品种提高17.46%~46.05%,其产量为CK的1.88倍。N肥品种的增产效应顺序为UF>CO(NH<sub>2</sub>)<sub>2</sub>>NH<sub>4</sub>NO<sub>3</sub>>NH<sub>4</sub>HCO<sub>3</sub>;UF处理,辣椒的果长、果宽、单果重及座果率等指标明显高于其它速效N肥品种。控释N肥用量试验表明,产量与用量密切相关,以600kg/hm<sup>2</sup>投入可取得较高的产量和经济效益,过量施用,效益显著下降。控释肥相同用量,覆膜栽培较露地栽培增产15.16%~16.45%;辣椒总糖、维生素C含量有随施用量增加而增加的趋势,但对干物质质量及总酸度的影响较小。

**关键词:** 控释N肥 辣椒 生理效应 肥料利用率 控释N肥 辣椒 生理效应 肥料利用率

**Abstract:** Soil culture and field biological experiment was used to study the influence on growth, morphological index, yield and fertilizer utilization rate of pepper (*Capsicum annuum* L.) with different nitrogen fertilizers, and the effect of fertilizer on yield and qualities of pepper in two planting methods with and without plastic film covering. The results showed that urea formaldehyde (UF) had the highest rate of absorption and utilization, ie 44.4%, increased 17.46% ~ 46.05% compared with other fertilizer. The order of increasing yield of fertilizers was UF > CO(NH<sub>2</sub>)<sub>2</sub> > NH<sub>4</sub>NO<sub>3</sub> > NH<sub>4</sub>HCO<sub>3</sub>. Yield of UF treatment was 1.88 times that of CK, the index of length, width of fruit weight per fruit and fruit rate of pepper increased markedly compared with the other treatments. The yield was positively related to UF rate, when UF rate was 600kg/hm<sup>2</sup>, the yield and economic benefit were higher, and fertilizer benefit dropped with UF in excess. Compared covered plastic film with uncovered soil planting in same rate of UF, the treatment of covered plastic film planting increased yield range by 15.16% to 16.45%, and the contents of total sugar and vitamin C increased with the increase of UF, but the effects on dry matter and total acidity were smaller.

**Keywords:**

#### 引用本文:

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