

## 硼镁营养对不同硼效率甘蓝型油菜品种苗期硼形态的影响

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Effects of boron-magnesium on boron forms of rape cultivars with different boron efficiency at seedling stage

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**摘要** 通过营养液培养试验,研究硼镁对不同硼效率甘蓝型油菜品种苗期硼形态的影响。结果表明,硼正常时,硼高效品种青油10号自由态和半束缚态硼含量较低品种高,能参与转运的硼较多;硼低效品种95105束缚态(细胞壁)硼含量较高,自由态和半束缚态硼含量较低,转运、利用效率低。低硼时,硼高效品种根部束缚态硼减少,自由态和半束缚态硼增加,而叶中各形态硼分配合理,达到优化利用;反之,硼低效品种适应营养胁迫的能力较高效品种差。镁在一定程度上可以使硼向有利于其移动的形态转化,提高硼库容量,但在低硼、低镁时,却减少硼低效品种硼库容量,加剧地上部硼的缺乏。

**关键词:** 油菜 硼镁营养 硼形态 硼效率 油菜 硼镁营养 硼形态 硼效率

**Abstract:** Effects of boron-magnesium on boron forms of rape (*Brassica napus*) cultivars with different boron efficiency were studied at seedling stage with solution culture. The results showed that under condition of sufficient boron the proportion of free boron and semi-bound boron in boron efficient cultivar(QY10) were higher than that in boron inefficient cultivar(95105), which means that more boron could be retranslocated in boron efficient cultivar. The concentration of the bound boron (located in cell wall) in boron inefficiency cultivar was higher than that in boron efficiency cultivar, but the concentration of the free bound and the semi-bound boron is lower, the coefficient of transportation and utilization was low. At the condition of low boron, in root, bound boron were decreased, and free boron and semi-bound boron were (increased), reversely in leaf, the three boron forms in boron efficiency cultivar could be distributed and utilized excellently to adapt the boron deficient stress, and these were reversed in boron inefficiency cultivar. Transit between boron forms in plant was influenced to some extent by magnesium level, which improved the form of transportable boron form, and (increased) the boron's pool capacity. Under low boron condition, the boron pool capacity of the boron inefficiency cultivar was decreased by magnesium, and aggrandizing the boron deficiency in shoot.

**Keywords:**

### 引用本文:

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