

施用硫肥对冬小麦光合生理特性及产量的影响

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Effects of sulphureous fertilization on photosynthetic and physiological characteristics and yields of winter wheat

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摘要

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摘要 在田间条件下, 连续两年通过不同硫肥处理对多穗型小麦品种豫麦49和重穗型小麦品种豫麦66的光合特性和产量性状影响进行了系统研究。结果表明, 施用硫肥对提高群体光合速率(CAP)、旗叶净光合速率(Pn)、叶绿素(Chl)含量以及硝酸还原酶(NR)活性等方面有重要作用, 但不同硫肥处理之间, 不同小麦品种之间存在差异。本研究结果还表明, 不同的硫肥处理对提高两种穗型冬小麦产量有差异, 且对产量构成因素也有不同的影响。比较硫肥不同处理对两种小麦品种光合生理特性及产量的调控作用以及投入成本来看, 在目前高产田养分供应条件下, 两品种均以基施 S120 kg/hm²效果相对较优。

关键词: 硫肥 冬小麦 光合特性 产量性状 硫肥 冬小麦 光合特性 产量性状

Abstract:

Effects of sulphureous fertilization on photosynthesis, physiology and yield characteristics of two winter wheat (*Triticum aestivum* L.) cultivars (Yumai 49 with a multiple spike and Yumai 66 with a heavy spike) were systematically studied in two successive years in the field. The results show that the sulphur fertilization plays an important role in improving canopy apparent photosynthesis, flag leaf's net photosynthesis, leaf's chlorophyll content and flag leaf's nitric acid reductase activity. However, there are differences among the different sulphur fertilizer treatments, and as well as between the two cultivars. In addition, the study also indicates that there are differences in increasing grain yield and improving yield characteristics of the two cultivars among the different sulphureous fertilizer application. On the whole, compared with photosynthesis, physiology and yield characteristics and input cost during wheat growth stage, the rate of S fertilizer recommended presently is S 120 kg/ha as base fertilizer application for the cultivars under the high-yield wheat field conditions in Henan province of China.

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