

农学—研究报告

晋南旱垣春季低温对不同播种期小麦冻害的影响

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摘要:

为有效抵御春季低温对小麦冻害的不利影响, 提高小麦的抗冻能力, 在山西临汾采用大田随机区组方法研究了春季低温对不同播种期小麦叶片、节间、穗部冻害的影响。结果表明: 单株叶片冻害率随着播期的推迟而提高, 变幅为3.0%~55.4%, 单株分蘖叶片冻害率高于单株主茎叶片冻害率, 二者相差16.6%, 单株鲜重、单株绿叶与单株冻叶率相关性高于其它生物学性状; 节间冻害呈现随着播期的推迟而趋重, 表现出第1节间轻于第2节间; 冻穗率在试验播期范围内则呈现两端轻中间重的现象, 以播期10月22日最轻, 10月12日最重, 变幅为11.58%; 同时对形成处理间冻害差异的原因进行了研究, 提出培育冬前壮苗是有效缓解和防御春季低温冻害的关键措施。

关键词: 冻害

Effect of Spring Low Temperature on Different Sowing Date Winter Wheat Frozen Injury on the Arid Area of Southern Shanxi Province

Abstract:

In order to resist the adverse effect of spring low temperature on wheat frozen injury, and to improve frost resistance of winter wheat, this experiment was conducted to study the effect of spring low temperature on different sowing date winter wheat frozen injury to leaves, internodes and spikes by using a randomized block design in Linfen, Shanxi Province. The results showed that the rate of freezing injury to leaves per plant increased gradually with putting off sowing date with the range from 3.0% to 55.4%. The rate of freezing injury to tillering leaves per plant was higher than that of main stem leaves with the difference of 16.6%. Association of the rate of freezing injury to leaves per plant with fresh weight per plant and green leaves per plant was higher than that with other biological characters. The freezing injury to internodes also tended to get heavier along with delaying sowing date and damage degree of the 1st internodes was slighter than that of the 2nd one. The rate of freezing injury to spikes was higher at the two ends of sowing date than that of the medium sowing date, the injury on October 22th was the lightest, on October 12th was damaged most seriously and the range was 11.58%. The reason for difference among different treatments was also analyzed in this study, and putting forward that cultivating the strong seedling before winter was one effective measure to prevent and relieve the freezing injury in spring.

Keywords: freezing injury

收稿日期 2010-11-12 修回日期 2010-11-30 网络版发布日期 2011-04-25

DOI:

基金项目:

科技支撑计划项目; 山西省科技厅重大专项

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