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春旱对春玉米产量的影响试验研究(PDF)

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Title: Field experiment study into influence of spring drought on maize yield

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关键词: [春玉米](#); [春旱](#); [田间试验](#); [减产](#); [指标和模型](#)

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摘要: 将分级土壤水分胁迫试验与分期播种田间试验相结合,研究了春旱对春玉米产量的影响。结果表明,玉米播种出苗期间耕层土壤含水量与玉米产量的关系是二次函数关系。春季土壤水分胁迫对玉米产量的影响很明显,在田间持水量以下,土壤湿度每下降1个百分点,单产下降7%左右,耕层有效水量每减少10 mm,单产下降14%左右。文章还确定了玉米春旱的土壤水分分级指标。土壤水分对产量的影响指标和模式可以用于开展玉米春旱程度评估和预报,也可用于确定抗旱灌水量。

Abstract: This paper studies the influence of spring drought on maize yield based on the combination tests of soil water stress test and field test of seeding trials. Results show that during the corn planting and emerging periods, the relationship between soil water content and corn yield follows a quadratic function. Spring water stress of soil on maize yield is very obvious. In field water capacity, soil humidity declined by 1 percentage points each, maize yield will be reduced by about 7%; soil effective water reduction for every 10 mm, per unit area yield will drop about 14%. The article also identified maize drought index of soil moisture. The influence of soil moisture decrease on the corn yield was quantitatively studied. The indicator and mode of soil moisture influence on maize yield can be used for developing the assessment and prediction of maize spring drought, and can also be used to determine drought-resistant irrigation

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