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研究论文

玉米雄穗的遗传和相关性研究

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摘要 本研究以玉米的6个世代为材料,采用数量遗传学方法,分析了玉米雄穗主轴长度、分枝数、平均分枝长度、小穗着生密度和每穗小穗数的遗传模型,估算了它们的遗传力,并进行了相关分析。结果表明,除分枝数符合加性、显性遗传模型外,其余性状的遗传均可配合加性、显性、上位性模型;五个性状的h_B~2(%)分别为71.6、80.9、85.0、84.4和40.9,h_N~2(%)分别为41.2、47.7、31.5、50.0和23.3。相关分析发现平均分枝长度和小穗着生密度对每穗小穗数的直接作用最大,通径系数分别为20.7309和14.7371。选择雄穗时,对分枝数和小穗着生密度进行早代选择是比较有效的。

关键词 雄穗, 遗传模型, 遗传力, 通径系数, 玉米

分类号

Study on Inheritance and Correlation of Tassel in Maize

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Abstract The study emploied methods of quantitative genetics, analysed heredity, model ofmain axis length, branch number, mean length of branch, spikelet density and spikeletnumber per tassel in maize tassel, estimated their heritability and conducted correlationanalysis. The result indicated that inheritance of the characters studied werecoordinated by additive, dominance, and epistatie model, except that inheritance of thebranch number accords with additive, dominance model. Broad-sence heritabilities ofthe five characters (h %) were 71.6, 80.9, 85.0, 84.4 and 40.9 respectively, nar-row-sense heritabilities (h %) were 41.2, 47.7, 31.5, 50.0 and 23.3, repectively. Pathanalysis showed that it is 20.7309 and 14.7371 the direct path coefficient of the meanlength of branch and spikelet density with:the spikelet number per tassel, respectively.It was more effective to select the branch number and spikelet density in early generations.

Key words A tassel in maize Heredity model Heritability Path coefficient

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