

园艺—研究报告

百日草雄性不育杂交育种初探

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摘要:

为了选育出矮型(株高20~40 cm)、大花(花径7~10 cm)、重瓣性佳、抗逆性强、生长健壮、整齐一致,尤其是适合北京园林景观应用的百日草F1代新品种,以收集到的Zinnia elegans种的资源为主要材料,开展百日草雄性不育系杂交育种工作。经过大田试验研究,结合北京夏季天气高温、高湿、连续降雨的特点,确定翌年大田百日草父本播种时间为5月中旬,母本播种时间为5月下旬;小植株地栽之前,增加大田里基肥施用种类及力度,以使植株生长更加健壮,能有效提高植株本身对逆境的抵抗能力;获得一个有潜力的杂交组合,颜色遗传规律为红色雄性不育系母本与红色自交系父本杂交,得到红色杂交F1后代。通过将杂交F1后代与国内外其他F1代品种进行性状对比试验,发现其重瓣性好、颜色鲜艳、不褪色、生长健壮且有较好的抗逆能力,但株型松散、株高偏高,需进一步改良亲本,加大其纯化力度,尤其需进一步提高其抗逆性。另外,还需要对这对杂交组合连续多年进行杂交改良,确保其具有稳定的优良性状遗传能力。

关键词: 性状对比

Short Communication about Male Sterile Hybridization Breeding in Zinnia elegans

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Abstract:

For selecting new Zinnia elegans F1 variety to prettify Beijing landscape, which has some characteristics, such as dwarf forms (height 20~40 cm), big flower (flower diameter 7~10 cm), good double petal, powerful stress resistance, robust development, uniformity and stability, the hybridization breeding research of Zinnia male sterile line was conducted by using the gathered source of Z. elegans species. After having done some field experiments, the factors of high temperature, high humidity and continuous rainfall in Beijing summer were also be considered, the sowing time of male parent and female parent was confirmed separately at the midmonth and latten-day of May in the second year, and before seedlings were planted for seedlings growing more robust, the base fertilizer kind and concentration need to be increased to resist adverse environment. Meanwhile, a potential cross combination was obtained, which had a red filial generation F1 deriving from the cross of red male sterile line and red self-bred line. By means of character contrast test between a red filial generation F1 and the other domestic and overseas F1 varieties, it showed good double petal, bright flower color, no colour fading, developing healthy and strong, preferable resist-stress, on the other hand there were some weakness, such as loose plant type and higher stem length, so the parent need to be improved and purified, especially the increase of stress resistance. Moreover, the pair of cross combination would be optimization in order to insure the stable and fine heredity ability in later years.

Keywords: character contrast

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