

Agaricus bisporus
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**A study on General and Specific Combining Ability in Ten Homokaryotic
Isolates of *Agaricus bisporus***

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Abstract

Crosses among 10 homokaryotic isolates of *Agaricus bisporus* (parents) resulted in 45 offsprings. To measure some traits such as yield, ratio of cap length to stipe height, weight of single fruit body

and total number of fruit bodies, a fruiting test was performed in a randomized complete block design with two replications. General and Specific combining ability (GCA and SCA) effects were calculated for each trait, according to the Griffing's method 4. The results showed that both GCA and SCA were significant for all traits. While genes action in relation to the ratio of cap length to stipe height and weight of single fruit body was both additive and non-additive, it was only additive in other traits. In accordance with the role in which additive effects play in governing the traits, it was found that the isolates 130-48 and 130-52 could be appropriate sources for increasing yield and the total number of fruit bodies, while the isolates 130-52 and A15-5 could be applied in order to increase weight of single fruit body and ratio of cap length to stipe height, respectively.

Keywords: *Agaricus bisporus*, Gene action, Specific and general combining ability

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²*Agaricus* Resource Program

¹ISMS (<http://www.isms.biz>)

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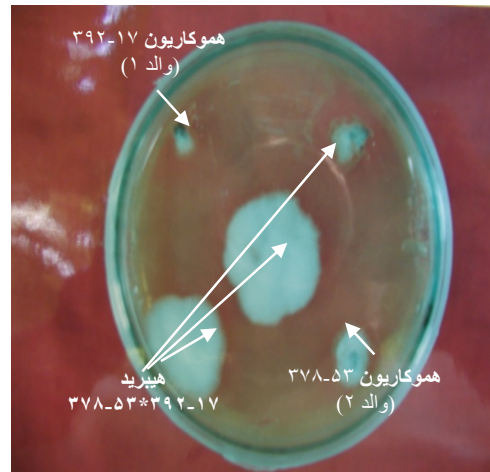
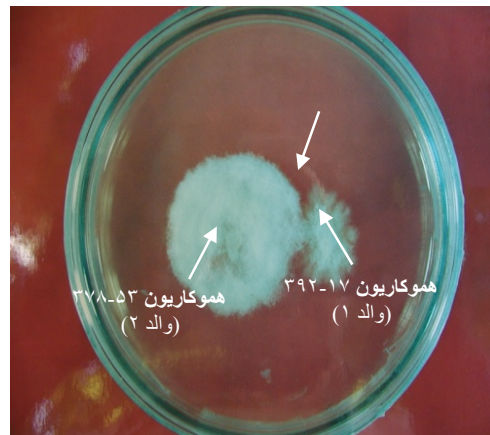
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