



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من 15-25 مئوية ورطوبة نسبية من 20-40%

To be Kept away from Dust in Dry Cool place of
15-25- c and relative humidity 20-40%



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

بالرسالة صفحات لم ترد بالأصل

MOLECULAR GENETIC STUDIES ON IRRADIATED WHEAT PLANTS

BY

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**A thesis submitted in partial fulfillment
of
the requirements for the degree of**

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in
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**Department of Genetics
Faculty of Agriculture
Ain Shams University**

2002

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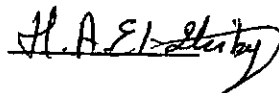
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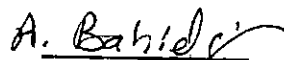
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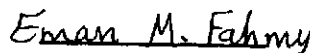
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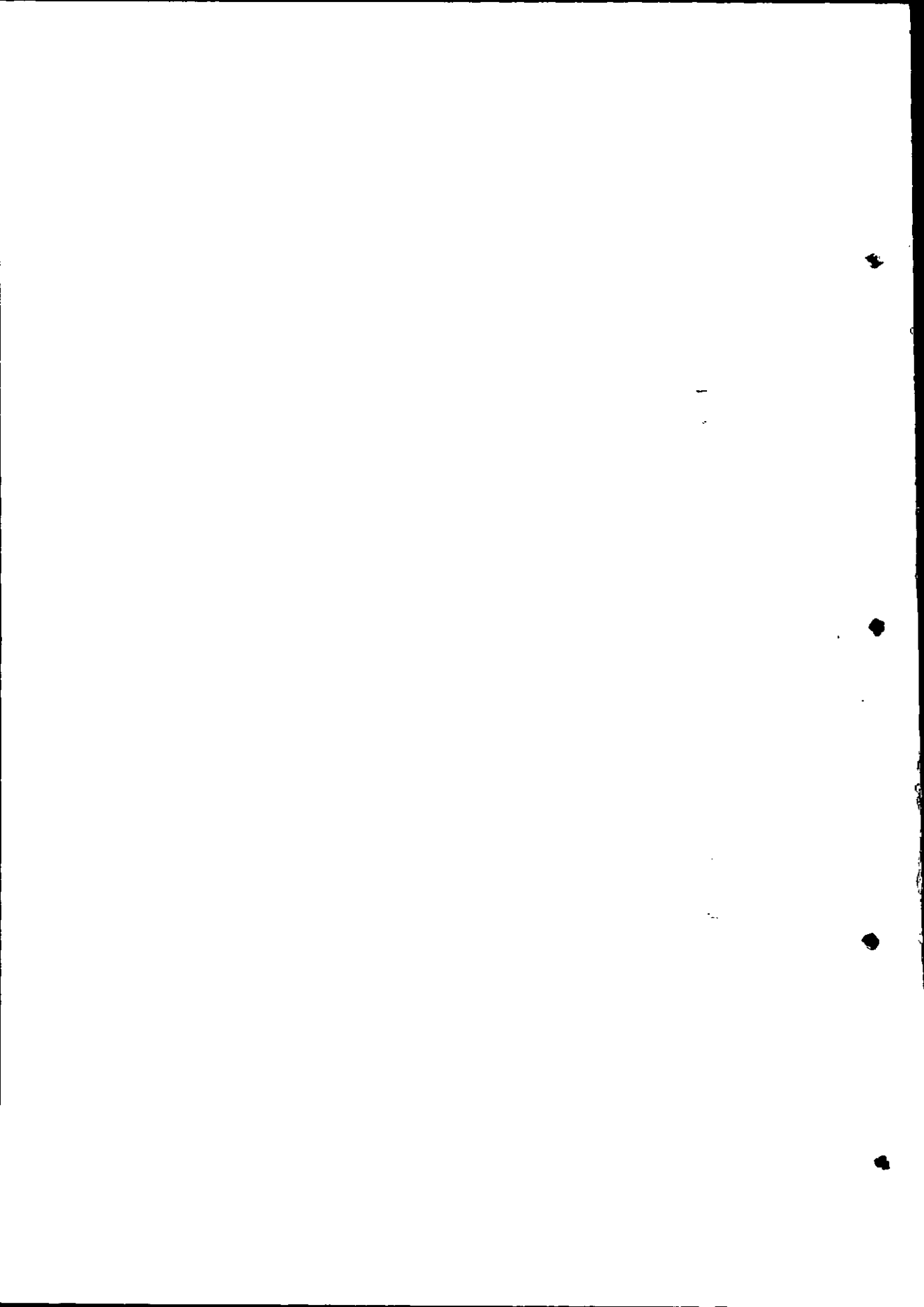
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ABSTRACT

Osama Moseilhy Saleh, Molecular genetic studies on irradiated wheat plants, Unpublished Doctor of Philosophy Dissertation, Genetics Dept., Fac. Agric., Ain Shams Univ., 2002.

Composite genotype (octamer hybrid) was obtained from crossing among eight Egyptian hexaploid wheat cultivars differing in their tolerance to drought stress to produce a genotype, which can economize on the irrigation water requirements or can tolerate drought stress.

Gamma irradiation with 10-Krad was used to induce mutations, which could improve drought tolerance for this composite.

From eight Egyptian hexaploid wheat cultivars, two were chosen as drought tolerant and drought sensitive genotypes (G-160 and Sk-61, respectively). They were evaluated along with their F_1 and F_2 for their relative drought tolerance for some yield-related traits.

Bulked segregant analysis developed some RAPD and SSR markers with different primers, which were considered as molecular markers for drought tolerance in wheat.

Hal2-like gene was introduced into Egyptian wheat cultivar G-164 via microprojectile bombardment. Two putative transgenic plants were successfully detected by leaf painting with the herbicide basta. PCR/ Southern blotting analysis indicated the presence of both/either *bar* and/or *Hal2*-like genes in the genomic background of the two transgenic plants.

Key words: *Triticum aestivum*, drought tolerance, yield-related traits, RAPD-PCR, SSR, bulked segregant analysis (BSA), gamma irradiation, immature embryos, transformation, biolistic bombardment, *Hal2*-like, bialaphos, Southern blotting.

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