شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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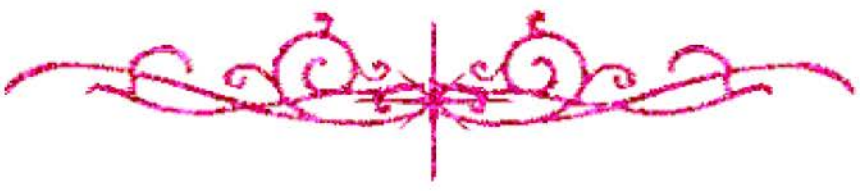
بعض الوثائق الأصلية تالفة



Molecular Genetic Identification of Endogenous Barley Cultivars

By

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B. Sc. Agriculture (Genetics), Ain Shams Univ., 1995

A thesis submitted in partial fulfillment

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List of Abbreviations

10-mer primers	10 oligonuclutide primers
2,4-D	2,4-Dichlorophenoxy-Acetic Acid
6-PGd	6-phosphoglucodehydrogenase
Aat	aspartate aminotransferase
ACPH	Acid phosphatase
AFLP	Amplified fragment length polymorphism
BAP	Benzyladeninel
cor	Correlation
EST	Esterase
GD	Genetic distances
Got	glutamate oxalate transaminase
GS	Genetic distance
H	Hordein
H. vulgare	*Hordeum vulgare*
IAA	Indol acetic acid
IDH	Isocetrate dehydrogenase
IEF	Isoelectric focusing
ISJ	Intron splice Junction
KWT	100-kernel weight
LDH	lactase dehydrogenase
MDH	Malate dehydrogenase
MS medium	Murashige and Sckoog medium
NAA	Naphthalene acetic acid
NDH	NADH dehydrogenase
PCR	Polymerase chain reaction
PRX	peroxidase
R	RAPD
RAMP	Random Amplified Microsatellite Polymorphic

	Fragments
RAPD	Random amplified polymorphic DNA
RFLP	Restriction fragment length polymorphysim
SCAR	Sequence characterized amplified region
SDS-PAGE	Sodium Dodecil Sulfate-Polyacrylamide Gel Electrophoresis
SPSS	Statistical Package for Social Science
SSR	Simple sequence repeats
STS	Sequence tagged site
TIBA	2,3,5-triiodobenzoic acid
UBC	University of British Colombia,
WNSP	Water-non-soluble protein
WSP	Water-soluble protein

Abstract

Ghada Hamdy Mahmoud El-Nady. Molecular Genetic Identification of Endogenous Barley Cultivars. Unpublished M. Sc. thesis (Genetics) Ain Shams Univ. Agric. Fac. Genetics Department, 2000.

Ten barley cultivars (*Hordeum vulgare*) were characterized on biochemical and molecular bases. Six yield components characters and the correlations between each two characters were studied. Protein banding patterns using PAGE- SDS and isoelectric focusing as well as isozyme variations were carried out to identify the biochemical genetic fingerprint of each cultivar. Meanwhile, a trial to identify the molecular genetic fingerprints of the studied cultivars was carried out. In this respect, eleven primers were tested to perform random – PCR analysis, but only nine of them were succeeded to amplify DNA and hence gave a fingerprint for each cultivar. Based on the obtained data (polyacrylamide PAGE- SDS banding pattern, isozyme, and PCR products), a phylogenetic map i.e., dendrogram were constructed for the studied cultivars. Micropropagation trials were carried out via sections of mature embryo culture for the studied cultivars, using MS medium with five concentrations of 2,4-D (0.25, 0.5, 1, 2, and 5 mg/L).

Key words:

Barley, *Hordeum vulgare*, Protein fingerprint, SDS-PAGE, Isoelectric focusing, Isozyme variations and RAPD.